CONFERENCE

1951

PROCEEDINGS

USING ACCOUNTING TOOLS
IN THE
DEFENSE ECONOMY

1951 CONFERENCE PROCEEDINGS

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USING ACCOUNTING TOOLS IN THE DEFENSE ECONOMY

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SESSION I

ACCOUNTING PROBLEMS OF A DEFENSE ECONOMY—1

MONDAY MORNING, JUNE 25, 1951

LEONARD O. ZICK, Secretary and Treasurer,
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Mr Headlee is a member of the Board of Directors, First National Bank of Wilkinsburg (Pa) and a member of the Board of Directors, Columbia Hospital He is a National Director of the N A. C. A. and a past president of the Pittsburgh Chapter. He is a member of Controllers Institute

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INDUSTRIAL ACCOUNTING IN A DEFENSE ECONOMY

CHARLES E. HEADLEE

Controller, Westinghouse Electric Corp.,
Pittsburgh, Pa.

A REVIEW of N. A. C. A. convention programs since 1945 indicates considerable change in the interests of this group over recent years. Some of the interests of 1947 and 1948 fell into the background and have only recently returned to prominence. Others are now so far out of mind as to appear ridiculous, like ladies' fashions of days gone by. As with fashions, however, some will return with the same appeal that they once held.

Some subjects are of interest always. This is true of subjects such as, "Analysis of Nonmanufacturing Costs for Management Guidance" or "Analysis for Reduction and Control of Manufacturing Costs" to mention two which are on this convention program. These subjects are not of the variety which are peculiar to a defense or war period. They are likely not to receive the attention they deserve in such a period and, for that reason, I am glad to see them not being completely dropped. From discussion of fundamental subjects and resulting action, we have increased the nation's production and can continue to do so.

In any period, whether defense, war, peace-time, stable, unsettled, long or short, one of our major responsibilities—in fact our prime one—is to produce reliable and accurate statements and statistics. The subjects we discuss most in any given period often receive attention because accounting practice has not provided statements and statistics which are universally accepted as being wholly reliable. Any accounting subjects of interest to the industrial accountant which are peculiar to the present defense period either fall in this class or result from defense contracts or from new laws and regulations.

ACCOUNTING PRACTICES NOT WHOLLY ACCEPTABLE

Those subjects and practices of interest to us because they lack universal acceptance, are much more fundamental and important than are subjects peculiar to the period. Such accounting policies may be

the cause of criticism and regulation of industry. They may be a factor in shaping corporation or government policies and may even affect our form of government. We need to seek them out and make corrections.

In a war period—either "hot" or "cold"—business conditions are unstable. There is too little business in one line, too much in another, inventories get out of balance, demand runs ahead of supply and inflation occurs. For industrial accountants to say that they have followed accepted accounting practice in developing their statements is not a valid excuse for unreliable statements. I am concerned that we have published figures individually and collectively during the last six to nine months which, to be reliable, have to be read with more accounting judgment than we can reasonably expect on the part of everyone who takes action based upon them. Generally, officers in charge of company operations, bankers, financial analysts, economists, and a limited few others, can see their implications and the picture they portray because they know all about "generally accepted accounting practice."

I think, however, that only a small percentage of our supervisors see a true and complete picture from our statements, that very few of our workmen do, and that a similarly small percentage of labor leaders can get the picture clearly. Our statements are "fair game" for any who wish to use them for personal advantage, politicians, for example, who obtain votes from numerous employes by discrediting and berating their less numerous employers, labor leaders who try to secure for their constituents a greater share of the gross income dollar and, last but not least, enemies of the profit, competitive or free enterprise system.

Can we improve the statements we prepare for internal and public reading? Only a very little unless we can improve accounting practices. Possibly we can make some important improvements in the practices. We have made some changes in the form of published statements and many changes in the form of internal statements during the last decade. Generally, I think the changes in form have been for the better. We are also making some changes in practice. I say "making" because important changes are yet in the making or are scarcely begun. We talk a great deal about consistency of practice. It is important not only from the standpoint of the accounting profession and its responsibilities as a whole, but also for the accounts and statements of the individual business. As we proceed, some of you

may say that I put too low a value on consistency. On the other hand I have often been reminded for some reason, as have many of you, no doubt, that consistency is the mark of a small mind.

Last-In, First Out

On Wednesday, Mr. Smart will discuss inventory valuation with emphasis on "lifo." While I do not wish to duplicate anything that he may say, I do wish to talk about "lifo" briefly. There is so much to say on the subject it hardly seems likely that I will cover any of the material he will present. If I should disagree with him in any respect that will not be a calamity. It is a subject that is brought forward by the defense activity and consequent inflation and, therefore, is a subject I should mention.

The change to the "lifo" method of valuing inventory has been steadily developing over the past twelve to fifteen years. My guess is that less than one-fourth of all inventories are now on "lifo," but the rate of change is accelerating. I made a brief review of the first 118 annual reports to reach my office in 1951. Exactly fifty-nine of them indicated that some part or all of their inventories were valued on the "lifo" basis in 1950. There were several companies on the list which produce basic materials, such as oil, steel, copper, chemicals and rubber. Considerably less than 50 per cent of the manufacturing companies reviewed have any part of their inventory on "lifo."

The "lifo" method receives its popularity from its anticipated tax advantage. In general, where the method has been adopted, there has proven to be a tax advantage, I believe, although it can well become a tax disadvantage. Many manufacturers interested in "lifo" have found no practical procedure for applying the principle. Because of this, discrimination not intended by the lawmakers has occurred against these manufacturers. However, more and more manufacturers are finding ways of adopting "lifo." Many of them will be disappointed, I am afraid, because they have not given proper consideration to the effect of liquidations in manufacturing. In the electrical business, for example, with "lifo" on a unit basis, liquidations would occur annually or biannually, on household appliances because of design or model changes and on raw materials frequently because of specification changes. All the "lifo" work would be done for only a minor temporary result. On industrial apparatus, liquidations would occur in similar fashion. "Lifo" might be adopted, say, for the copper

content of the inventory, but it is relatively small for most manufacturers. The better approach would be a limited number of broad dollar pools controlled by indices. Copper might then be one pool, labor another and so on until all the inventory is covered. The Treasury Department may not buy this approach readily but I am convinced the discrimination against many manufacturers will continue in large part unless some such approach can be made. It is improper and unfair to call it a complete liquidation when a farm machinery manufacturer makes pick-up balers, replacing two or more machines which previously did the same work. It is this type of problem that the manufacturer faces in adopting "lifo."

At the time the "lifo" valuation method was approved for federal income taxes, I had the impression that accounting educators, public accountants, and industrial accountants, did not receive it with general favor. Today I believe the theory is quite generally approved. Ignoring the tax advantages, it unquestionably produces much more reliable operating costs and statements of profit. The profit figures many of us have reported for the third and fourth quarters of 1950 and the first quarter of 1951, have been quite seriously inflated. Economic indicators for May, prepared by the President's Council of Economic Advisors, reports this inflation to be 8.3 billion dollars of 46.4 billion profits in the third quarter 1950 (annual rates seasonally adjusted), 8.5 billion of 49 billion profits in the fourth quarter and 9.5 billion of 50 billion profits in the first quarter 1951. In periods of defense, war or depression, we will be making an important correction in our operating statements if we can complete this change in accounting practice which we are now making.

If you have not done so I suggest that you approximate an operating statement using "lifo," starting with selected years since 1940. It will be interesting, to say the least. Keep in mind, however, before you adopt it for tax purposes that you must find a method which avoids unjustified liquidations which, in reality, are not liquidations at all, if you are to obtain from your use of "lifo" anything other than confusion.

Direct Costs for Inventory Valuation

We here and throughout the country are in the process of changing another accounting practice involving inventory valuation. I refer now to exclusion of fixed factory overheads from inventory. Going

back sixty years or more, the relatively few accounting text books then existing usually recommended classifying fixed factory expenses as period costs rather than inventory costs. Later this was not the case. Only a very few manufacturing companies followed this practice during the years up to the middle thirties. A considerably larger number of manufacturers excluded all factory expenses from inventories, a practice which I consider to be unsound and I believe most of you agree. Fixed factory overheads are a function of time, not of production. To include them in inventory distorts the operating statement.

I first realized the full significance of this fact in 1937, '38 and '39, when we had drastic increases and decreases in inventory balances. We were using standard costs at that time—and still do. The standard cost method did not create the situation but it did aid in disclosing facts which otherwise would not have been so obvious. It was apparent that to include fixed factory expenses in inventory not only distorted operating statements as inventories rose and fell, but it also made the computation of a breakeven point more involved than it needs to be. The procedure toward which industry is moving is simple and provides a more readily understood set of statements. It is merely to include in inventory all direct material, direct labor and all direct factory expenses (that is, factory expenses which are a function of production), and to exclude from inventory those factory expenses which are a function of time. Segregating factory expenses into the two classes is not easy but it can be done on a reliable basis. In fact, it is already done if you are using standard costs.

I am not going into the detail of this change in practice but refer you to a number of publications on the subject. Some of them are:

Direct Costs as an Aid to Sales Management (October 1948 *Controller*) by Jonathan N. Harris, Comptroller, Dewey and Almy Chemical Co.

The Case Against Administrative Expenses in Inventory (*Journal of Accountancy,* July 1946), same author.

What Did We Earn Last Month (*N. A. C. A. Bulletin,* January 15, 1936), same author.

Selling Overhead to Inventory (*N. A. C. A. Bulletin,* January 15, 1947) by Philip Kramer, Research Staff, Graduate School of Business Administration, Harvard University, Boston, Mass.

Fixed Charges in Inventories (*N. A. C. A. Bulletin,* April 15, 1947) by Cecil Clark, Secretary-Treasurer, Sangamo Electric Co., Springfield, Ill.

What Is Wrong With Most Profit and Loss Statements (*N. A. C. A. Bulletin,* July 1, 1937) by Clem N. Kohl, Controller, Gates Rubber Company, Denver, Colo.

Recently, one of the authors above-cited, made the statement that four prominent American management consulting firms and three national accounting firms are quietly proving to interested clients the desirability of the direct cost accounting method. While I cannot name the firms to which he refers I know this to be the case with some of the public accounting and consulting firms with which I am familiar. I also know of several, approximately ten, important industrial organizations that have reached the point of using the method and I know of others that are interested. During the past nine months inventories have increased, that is, production has exceeded sales. To the extent that fixed factory expenses are included in this increased inventory, we have overstated profits.

In this case, if we are contemplating changing our practice, we have to take into consideration the matter of consistency, not only from the standpoint of published figures but also from the standpoint of the federal income tax return. I think you will find, however, that Section 23 of the Internal Revenue Code provides for handling many of the so-called fixed factory expenses as period costs rather than as inventory costs. None the less, the problem of consistency still remains.

Depreciation

Another accounting practice criticised in 1948 and early 1949 was that of including in operations, depreciation of facilities based on their original cost. Since early 1949 we have heard little or nothing about it until recently. Within the last few weeks, however, I have seen a number of articles criticizing the results of this practice. Perhaps I would not have seen so many of them if I had not been looking. I believe there are more critical articles of this type appearing now than was the case immediately before the Korean incident because we are now in a period of more rapid inflation. Thus inventory profits and original cost depreciation affect total profits more noticeably than was the case in 1949 and early 1950.

It is an over-statement to say that we are making a change in depreciation accounting practice. To my knowledge we have not started to make this change. We cannot make the change or recommend a change until we know how to do it. On the other hand, I think we must admit serious doubts as to the advisability of including in operating costs a depreciation figure which is approximately one-third of the cost sustained through wear and obsolescence if based on the cost of replacing the facilities. The present procedure is particularly questionable if followed without so much as pointing out the fact and the significance of it in our statements.

I want to take no positive position as to whether or not we should change our practice in this connection because I have no clear program in mind for accomplishing the change. In fact I think no one is qualified to recommend a change in the depreciation practice unless he has in mind and can present a clear procedure for accomplishing the change. On the other side of the question, it also can be said that no one is qualified to oppose such a change until he has developed in his own mind the best possible methods of accomplishing it and then has compared the old procedure with the proposed one. The concern and dissatisfaction with the depreciation cost and consequent profit figures we have reported are of sufficient weight to justify our consideration of possible improvement in the practice before we conclude that no change is advisable. A solution to this problem seems to be a long way off, but another decade should solve it, and I do not mean that we should or will forget it.

Rapid amortization of facilities is not a solution. It may have gained some favor because of the inadequacy of our depreciation practice, but it complicates the accounting problem.

Consistency Regardless of Purpose

In a defense period, federal income and excess profits taxes increase materially. As a result, charges to operations which are not currently allowed for taxes, affect profit more than in other periods. This statement is made on the assumption that tax accruals for any period are based on taxable income rather than reported income. On this subpoint we could talk profitably, perhaps, about the most desirable accounting practice to follow. I am sure there is some difference of opinion on the subject. The more desirable thing to do is to conform the accounting practice to the federal income tax practice or vice versa which is

the point I wish to make. We are headed for real trouble unless, within reasonable limits, we can conform our internal accounting practice as well as our accounting practice for published annual reports with S E. C. requirements, Treasury Department requirements for federal income taxes, Army, Navy and Air Corps policies for cost-plus-fixed-fee costs, price redetermination, and renegotiation—and also, if you please, conform them with accounting practices for establishment of ceiling prices, if we are to have ceiling prices It is not only to make life easier to make our accounting operations more simple that I recommend this, but primarily because we will lose our way unless we do.

The opportunities for us to lose our way are so numerous that we cannot conceive all of them or see some of them after they happen and I will mention only one example. Assume that a conservative accounting group without dissent endorsed continuation of the practice of including depreciation in operating costs on the basis of original cost, as they might well do, and then were asked the question as to whether or not depreciation costs based on replacement value should be recovered in prices. I believe we would get nearly a 100 per cent vote in favor of the replacement value for that purpose, in order that cash would be provided for replacement of worn facilities. Now, as a practical matter, present tax regulations and accounting practice for reporting profits would require paying much of this recovery, either as federal income taxes to comply with the law, or as dividends, if you paid what the stockholder felt was a fair share of profits. To have $1 of cash after federal income taxes alone, at the present tax rate, would require inclusion of $2.66 in the price Furthermore, if we attempted to do this now, OPS announced ceiling price policies would have us stopped cold. We will have lost our way very seriously if accounting practice contributes toward the loss of the tools of industry. This point deserves the attention of accounting educators, public accountants and industrial accountants.

DEFENSE MATTERS

The subjects I have been discussing briefly may be of interest in other than defense periods, but they certainly are of serious importance at the present time. Because I think that some of those to whom this paper is addressed had hoped to hear something about other subjects peculiar to this period, I will move on to one in which I know many of you will be interested.

Government Contracts

Selling to the Government can be a troublesome adventure. It does not necessarily have to be so. One of the main difficulties in dealing with the Government stems from the fact that we do not understand each other. We, in industry, must recognize a different philosophy when we transact business with Uncle Sam. In the first place, the Government is using public funds. The purse strings on these funds are held by Congress. I know you smile when I mention this accountability to Congress, in the light of the scandals which have come out of Washington, but, nevertheless, it is legally true. For that reason Government expenditures are subject to scrutiny by Congressional investigating committees as well as the General Accounting Office. The contracting officers, therefore, are committed to tight procurement.

The Government must have a set of ground rules which necessarily are more rigid than the rules of trade in private enterprise. We are accustomed to drawing up agreements with a lot of fine print and then promptly disregarding most of it to fulfill our contractual obligations on a practical basis. The fine print is used only in case of last resort, but this is not so with the Government. What the fine print in a Government contract says, you have agreed to do.

Industry does not agree with *all* of the ground rules established by the Government. Nevertheless it must play the game or pay the price. Industry should continue to exert its combined effort to effect changes in those ground rules where they are unfair and result in waste or hardships. This is a long and tedious task and we should not give up until the objectives are attained. Many trade associations and others are continually working on these problems. I am sure that their efforts are being, and will continue to be, effective.

Perhaps we can spend a few moments on some practical aspects of this topic. We must know first the proper type of contract to use to cover a specific condition. If we find ourselves with a contract not suited to our particular needs, we are in trouble. Some months ago my company, along with a number of others, was asked by the Munitions Board if we felt that the Government needed to devise new forms of contracts in order to alleviate some of the difficulties being encountered. My company made a very careful study and the answer was, "No." The present types of contracts are adequate but industry,

and contracting officers as well, need more education as to how they should be used. What are these basic types? I mention them in the order of preference from an administrative standpoint only. Specific conditions may make the last-named the most practical for the particular procurement involved.

A. Fixed price
  1. Sealed bid
  2. Negotiated fixed price
  3. Negotiated fixed price—Price redetermination
  4. Target type—can be fixed price or cost type

B. Cost type
  5. Time and material
  6. Cost plus fixed fee—fixed overhead rates (Primarily research and development)
  7. Cost plus fixed fee
  8. Cost—No Fee—Facilities

There are, of course, numerous modifications of the basic types, modifications which cover specific details but do not necessarily change the type. For instance our company has negotiated blanket contracts on repair work, where the specific contract provides for no work to be done except on individual job orders issued from time to time under the blanket contract. The blanket contract established all the terms and conditions under which the work is to be done, but each job order involves a separate price negotiation, the price being negotiated as soon as practical after it can be determined what repair work is required.

If you are having contract troubles, I believe you will find that perhaps the basic difficulty is in not using the proper type of contract available to you. As a general guide, the proper types of contracts to seek under various conditions, in the order of my preference, are:

A. Standard product
  1. Advertised competitive bid (Sealed Bid)
  2. Negotiated fixed price—Catalog items—No cost breakdown
  3. Negotiated fixed price—Extended delivery—Escalation clause for wage and material increases

B. Modified standard product
  1. Essentially the same as standard

2. Negotiate only the cost of modification. Cost breakdown should clearly set forth the difference between standard for which the competitive price exists and the modification.

C. Custom built product
1. Sealed Bid
2. Negotiated fixed price—with or without price redetermination
3. Target type
4. Cost-plus-fixed-fee

There are some government practices with which we do not agree. Among them are exclusion of applicable costs from CPFF contracts as provided in ASPR Section XV, the use of ASPR Section XV on negotiated fixed contracts, the plan of inviting companies to bid on a project and then taking the low bidder and endeavoring to establish a lower price by negotiation, or awarding of a contract to one of the higher bidders and then putting the pressure on to negotiate the price down to the low bid price. I would take the same position, in the interest of protecting Uncle Sam's expenditures, if I were making the ASPR policy, or procurement practice.

The contractor-government relationship should have cost reduction rather than profit reduction as its paramount objective. Excessive profits are not proper but the profit motive should be used to stimulate efficient production and cost reduction. The use of profit incentives for good contractor performance can save far more in the form of cost reduction than it permits in higher profit margins. A small percentage reduction in the cost of any contract results in a saving to the Government that dwarfs any likely reduction of profit. If this concept can more effectively be made a part of the procurement policy it will benefit all concerned.

Renegotiation

By this time any who are interested must have resolved their questions on the Renegotiation Act of 1948. The Renegotiation Act of 1951 subjects to the provisions of the Act all income received or accrued after January 1, 1951 but excluding amounts attributable to performance prior to July 1, 1950 from all prime contracts and related subcontracts, regardless of amount or the date on which executed, with the following government departments or agencies:

Department of Defense
Department of the Army
Department of the Navy
Department of the Air Force
Department of Commerce
General Services Administration
Atomic Energy Commission
Reconstruction Finance Corporation
Canal Zone Government
Panama Canal Company
Housing and Home Finance Agency
Also—Such other agencies of the Government exercising functions having a direct and immediate connection with the national defense as the President shall designate.

The Act provides for certain mandatory exemptions as well as certain permissive exemptions Without attempting to discuss them all, I will name just a few. Mandatory exemptions include:

"Any contract or subcontract for the products of a mine, oil or gas well, or other mineral or natural deposits, or timber which has not been processed, refined, or treated beyond the first form or state suitable for use; or

"Any contract or subcontract with a common carrier for transportation, or with a public utility for gas, electrical energy, water, communications, or transportation."

Now my company is not involved in the sale of the products or services mentioned in these two exemptions, but it is definitely involved in furnishing the equipment which produces these materials or services. The fact that a prime contract may be exempt from renegotiation does not *necessarily* exempt a subcontract In our opinion, however—and this has been informally confirmed in Washington—sales which we would make to produce the materials or services mentioned would not be subject. To be certain we will have to wait for the regulations.

Another very important exemption is the "partial mandatory exemption for durable productive equipment." In brief, this exemption is interpreted to cover a case where a company sells "new durable productive equipment (which becomes a facility), ultimate ownership of which is not with the Government and which is to be used for the production of defense products. In such case, only that portion of the sales price will be included in "sales billed" subject to renegotiation which is in the same ratio as five years is to the normal useful life of the equipment. The useful life figure is determined by Bulletin F of the Bureau of Internal Revenue. The balance of the sales price is to be excluded from renegotiation. This exemption offers many complications in its administration and we shall have to wait until the regulations are released before a definite procedure can be established

Some of the permissive exemptions are interesting to note. All of these, of course, are effective only by specific action on the part of the Renegotiation Board. No such action has been taken to date. The following excerpts from the law identify permissive exemptions:

1 "Any contracts or subcontracts under which, in the opinion of the Board, the profits can be determined with reasonable certainty when the contract price is established, such as
   A. Agreements for personal services or purchases of real property, perishable goods, or commodities, the *minimum price* of which has been fixed by a public regulatory body.
   B. Leases and license agreements.
   C. Agreements where the period of performance is not in excess of 30 days."
2. "Any contract or subcontract, or performance thereunder during a specified period, or periods, if in the opinion of the Board, the provisions of the contract are otherwise adequate to prevent excessive profits"
3. "Any contract or subcontract the renegotiation of which would jeopardize secrecy required in the public interest."
4. "Any subcontract or group of subcontracts not otherwise exempted if, in the opinion of the Board, it is not administratively feasible to determine and segregate the profits attributable to such subcontracts from the profits attributable to activities not subject to renegotiation"

The Board has the authority to so exempt contracts in this permissive group both individually and by general classes or types. We are hopeful that the Board will recognize the impracticability of trying to apply renegotiation to sales for stock and issue a general exemption such as was done under the 1948 Act.

Administration of Renegotiation

Another major change effected by the 1951 Act is in the Renegotiation Board itself. The Secretary of Defense established and appointed the Military Renegotiation Policy and Review Board under the 1948 Act. The Renegotiation Act of 1951 establishes a five-man Renegotiation Board to be appointed by the President with the consent of the Senate. The Secretaries of the Army, Navy, and Air Force and the Administrator of the General Services Administration each recommend to the President one person to serve as a member of the Board. At least three of its members are required to be civilians. There is some concern that the 1951 Act has put renegotiation on a political basis. I surely hope not.

The Board must issue its regulations under the new act and industry is hopeful that many of the regulations which are now issued under

the 1948 Act, and are not in conflict with the new act, will be reinstated. In establishing the act, Congress stated that in the interest of national defense and the general welfare of the nation, excessive profits must be eliminated. That is a thesis with which industry has no argument. The value of the Renegotiation Act as a tool for over-all control of profits in a national emergency is well recognized. Well known, too, are the many difficulties faced by the Renegotiation Board in administering this Act for "the general welfare of the nation." "Excessive profits" on government contracts at this time cannot be sanctioned. Careful examination must be made, however, in determining where the label "excessive" should be applied to any specific case, for drying up or overburdening America's source of industrial might is the last thing we must allow to happen.

I feel that Frank Roberts, as Chairman of the Military Renegotiation Policy and Review Board under the 1948 Act, and his associates as well as his predecessors in World War II, have all done a commendable job in administering their responsibilities for "the general welfare of the nation," and it would certainly be a calamity if the former policy of strict fairness is lost.

The President has not as yet announced the appointments for the new Board. Nearly six months have passed with no regulations and, remember, the law is retroactive to January 1, 1951.

In the meantime we can make an effort to segregate sales billed since the first of the year into *subject* and *not subject* on the basis of what we do know. Also, new orders coming in can be so segregated. This, of course, is one of the big jobs involved in developing the renegotiation data. In our company we segregate direct to specific orders "sales billed," factory cost of sales, and special customer order development. Period costs and general and administrative expenses are apportioned and these can be applied at a later date on an accumulative basis when more of the regulations are known. In reply to any question on this subject, I may have to say, "Wait until we see the regulations."

Control of Material

After release last fall of National Production Authority Regulation on inventory control and Regulation 2 on the basic rules of the priorities system, we sorrowfully decided that it was time to re-establish the "committee" plan of priorities operation which proved quite satis-

factory during the emergencies of World War II Under it, each plant establishes a "priorities committee" made up of a chairman from the purchasing department, and a representative from each of the sales, production, engineering and accounting departments. We also have a headquarters guiding committee with the same departmental representation. The responsibilities of these committees are something like this:

The headquarters committee, in addition to serving as an advisor to the plant committees, takes action on matters which cannot be handled at the plant level. It distributes information concerning priorities, allocations and limitations to all interested parties throughout the entire corporation.

When advising local committees, the headquarters committee does not attempt to interpret each new order as it is issued by NPA. However, as questions arise and are discussed by the headquarters committee, a record of its interpretations is included in minutes issued and circulated throughout the corporation.

It is the responsibility of the local plant committees to interpret and start local action toward compliance on all new NPA regulations

So far, in the present program, we have not found the statistical burden as close to insurmountable as it was in the early days of World War II. We may have become immune. We have arranged to include the defense order ratings as part of our billing and cost distribution, so we are getting the rating pattern of our shipments along with our regularly prepared billing and cost distribution. Likewise, we are including the defense order ratings in our monthly accumulation of unfilled orders, which has always been prepared by product classification. The introduction of defense order ratings into this accumulation gives us the unfilled order requirements of NPA.

Under CMP, we are in the complicated situation of manufacturing Class A products, Class B products and such "open end" products as consumer durables. Thus, we are going to have to get our controlled materials through the vertical allocation of military claimant agencies for our Class A products, through industry claimant agencies of NPA for our Class B products, and through our purchasing department's ability to find available "open end" supply for our uncontrolled consumer durables. Such a varied supply situation makes it extremely difficult for management to make essential long-range plans.

This, in my opinion, is the most serious aspect of a controlled distribution of basic materials. We cannot plan the future on the basis of our own ability and ingenuity to expand the need and desire for our

product. Instead we must rely on our ability to impress the proper government agencies with the importance of our products in the defense programs of the armed forces and the defense supporting programs of the National Production Authority.

Price Ceilings

What do you want to know about the Office of Price Stabilization? I think you would like to hear some of the things I would like to say about it, but anything I say about OPS may be a waste of time because most of the industrial accountants who have responsibility for developing costs to comply with OPS Regulations 22 and 30 did not have time to attend this convention. Seriously, our situations with respect to ceiling prices are so varied that there is little point in our attempting to discuss them in this group. If you care to discuss this subject this afternoon I will do my best to answer your questions.

I think it is important for us to remember that price controls do not eliminate any of the causes of inflation. They tend to restrict production and, therefore, cause more inflation. They camouflage inflation temporarily. With sober reflection on all the consequences of price control and discarding our personal desire to buy at bargain prices, I believe we here have a knowledge and background that would prompt us to vote for pay-as-you-go taxes instead of price controls for inflation control, at least unless or until we are in an all out war.

In Place of a Conclusion

It is impossible to cover, even to touch on, all of the problems and subjects of special interest to accountants during a defense period, as I was directed to do by your Program Committee. I hope those subjects which I have covered in part have been of interest and that you have received something of value. I have been over too much territory to draw any kind of summary or conclusion unless it be to repeat. Instead, I will say, "Let's hit this thing hard and get it over with."

COST DETERMINATION FOR GOVERNMENT CONTRACTS

EARL R. UHLIG

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IDENTIFYING cost determination for government contracts as a separate subject would logically lead one to the assumption that such cost determination is based on an entirely different set of cost concepts than those generally practiced and in vogue for commercial cost accounting. This, however, is not the case. There is no rigid formula or set procedure requiring any particular system of accounting or deviation from generally accepted and sound accounting principles. Any definition of costs which has been promulgated for the determination of government contract costs can only set forth in principle those costs which may be admissible under government contracts, those costs which may be inadmissible and then the very large subject of those costs which may be subject to limitation as to their admissibility and as to which there is a large area of judgment involved. Thus, the operation of a cost accounting system well-founded on sound accounting principles should supply to a large degree the necessary material from which to determine the extent to which the costs accumulated thereby are allowable under government contracts.

Administrative History of Cost Inspection Bases

The Government, seeking constantly to improve its cost determination techniques, has made frequent and continuous use of industry representatives as well as outstanding professional men in the accounting field to bring into being various sets of cost principles. Delving back into the time before World War II, the Government promulgated Treasury Decisions 4906 and 4909 as a result of the necessity for establishing ground rules for the determination of costs under government contracts in order that there might be some degree of uniformity among companies doing business with the Government and subject to the requirements of the Vinson-Trammell Act. Then came Treasury

Decision 5000 which also was originally intended for use in determining allowable items of cost on contracts subject to the Vinson-Trammell Act (this Act relates, as you know, to excess profits on contracts for naval vessels and army and navy aircraft). The Army, however, made extensive use of this cost definition, regardless of the article being contracted for, in those of its contracts which required the determination of allowable items of costs.

The Navy Department and the War Department later promulgated the "Explanation of Principles for Determination of Costs Under Government Contracts," which was a new set of rules for the determination of allowable costs and which became familiarly known as the "Green Book." Despite the fact that it was issued under the joint standards of the War Department and the Navy Department, the War Department continued to use TD-5000, while the Navy consistently used thereafter those principles which were outlined in the "Green Book." Subsequent to the end of the last war, the Department of Defense, operating under the authority of the Armed Services Procurement Act, issued the Armed Services Procurement Regulation, of which Section XV is now the "cost bible" for the determination and allowance of costs in connection with the performance of cost reimbursement type contracts.

There were also a set of cost principles expressed in the Joint Termination Regulations which were to be used in the settlement of fixed-price government contracts terminated under the authority of the Contract Settlement Act, as well as still another set of cost principles established by the Renegotiation Regulations issued by the Military Renegotiation Policy and Review Board for the determination of allowable costs of performing a renegotiable contract. This latter set of definitions of allowable cost closely parallels those contained in the Internal Revenue Code, with certain exceptions and limitations.

Statements as to Present Policy

The most important step in the establishment of the principles to be used in determining costs of performing government contracts is the submission of the cost proposal and the explanations and conditions with which it should be surrounded at the time of making the initial bid. The Munitions Board on August 30, 1950 stated, as a part of its "Contracting, Pricing and Profit Policies," that

"it is the policy throughout the Department of Defense...to require detailed estimates of price components on negotiated prime contracts and major subcontracts thereunder. A detailed re-estimate of price components, together with evidence drawn from the company's cost control system in a form adequate to disclose the degree of accuracy of the estimating system, will be required in the administration of price redetermination clauses and incentive-type contracts."

Detailed and complete information is essential if there are to be no later disagreements as to what was meant. At the time of negotiating the contract it is imperative that the contract, depending upon its form, *i.e.*, fixed-price or cost reimbursement, spell out in detail the cost principles to be employed as well as those items for which a contractual coverage is required, so that later controversies will not arise. It is also desirable on fixed-price contracts that both the termination clause and the price-redetermination clause, if applicable, not incorporate the principles of ASPR Section XV but rather contain some wording such as "generally accepted and sound commercial accounting practices consistently followed by the contractor."

In order, then, to find out what costs will be admissible in determining the costs of performing government contracts, the problem should be separated into two basic parts—the cost reimbursement type contract and the fixed-price contract with its present myriad variations of price revision and price redetermination clauses. Let us approach the more complex and vexing of the two parts first.

COST REIMBURSEMENT TYPE CONTRACTS

Armed Services Procurement Regulation, Section XV, states in its preamble that its applicability is to the "cost reimbursement type contract," which term includes cost or cost-sharing contracts, cost-plus-fixed-fee contracts, and the cost reimbursement portion of time and materials contracts. It became mandatory to include the cost principles outlined therein in all cost reimbursement type contracts executed on and after March 1, 1949.

Cost Principles

That portion of the regulation with which industry is primarily concerned is the one dealing with supply and research contracts with commercial organizations, which says in part that the general basis for the determination of costs under this type contract is the sum of the

allowable direct costs incident to the performance of the contract, plus the allocable portion of allowable indirect costs, less applicable income and other credits. Allowability is tested by reasonableness, application of generally accepted accounting principles and practices and any limitations as to types or amounts of cost items set forth in the regulation or otherwise included in the contract. Standard cost systems, with adjustments for variances, unallowable costs and limitations as to cost, may be used for the purpose of securing provisional or interim payments but actual costs are the only basis of determining final allowable costs.

Direct Costs

There is usually very little difficulty in establishing the allowability of the direct costs of materials and direct labor. Other costs directly incident to the performance of the particular contract are not always so readily agreed upon. Where similar costs applicable to other work or projects of the contractor are charged to overhead, they must be eliminated from the allocation of burden to the government contract

Ordinarily it is required that the company ask for three quotations when it enters the market for materials. Prudence, as well as usual governmental reimbursement techniques, demands an explanation in the files for accepting any other than the lowest quotation or for having less than three quotes. Reasons such as financial instability of the low bidder, urgency of schedules, quality of workmanship and sole source of supply, justify deviation from normal procedures. Costs for materials withdrawn from stock will be allowed in accordance with the pricing system ordinarily and consistently followed by the contractor, provided the system agrees with sound accounting practice.

Costs will also be allowed for the reasonable net charges arising from differences between periodic physical inventories and inventory ledger accounts provided the charges relate to the period of performance and do not include write down of values. Cash discounts, trade discounts, other rebates applicable to materials, and scrap credits (for the current market value of scrap generated from the contract, whether or not such scrap is sold), act to reduce the cost of materials, either by direct credit to the contract or by credit through the overhead or burden allocation. The Government will also give consideration, in the calculation of allowable material costs, to overruns, spoilage and defective work, so long as the quantities and values appear reasonable.

Direct labor costs consist of salaries and wages properly chargeable directly to the article manufactured. Allowability of such salaries and wages ordinarily will be at the actual rates but average rates may be used, provided that this method of labor cost distribution is the contractor's consistent accounting practice and if it is clearly demonstrable that the Government will suffer no damage thereby. It is, of course, obvious that there can be no complete uniformity in defining the term, direct labor. Such uniformity does not even exist among companies within the same industry. Thus, what may be treated by one contractor as direct labor may be treated by another as indirect labor. So long as the contractor's practice is uniform throughout his own activities and is in accordance with sound accounting procedure, the differences among contractors are immaterial for the purpose of ascertaining costs under particular contracts.

It is recognized also that there is no uniformity among industries and companies in the treatment of overtime payments, bonuses and special premiums. Some contractors treat these items as direct labor charges, some as indirect costs. If direct labor cost is the basis for overhead allocation, some companies include such premium payments as a part of the base for the distribution of overhead while others eliminate that portion of the direct labor cost before determining the base for distribution of overhead. Overtime compensation, to be an allowable item of cost, must be specifically provided for in the contract or otherwise approved in accordance with its terms.

Indirect Costs

Indirect costs present, to most contractors, the major problem of cost allowability. Not only is this type of cost subject to specific non-allowances, as defined in the Regulation, but allowable items are frequently limited as to type and amount. Fortunately, however, the method of apportionment of indirect costs is not controlled by any specific formulae. Any of the methods more commonly in use, such as per cent to direct labor dollars, dollars per man-hour or dollars per machine-hour, are acceptable if their use results in an equitable apportionment to all work of the contractor and the method is consistently followed. It is essential that the subject of indirect costs be considered thoroughly at the time of negotiating the definitive contract, for it may be of administrative advantage to negotiate a predetermined rate or amount for indirect costs in lieu of the actual developed rate or amount.

The use of the predetermined rate or amount does not eliminate the question of allowability or limitation of types or amount, since the original cost proposal as well as the subsequent periodic submissions for the purpose of establishing the rate for the next period, must be prepared (and is examined) on the basis of allowability and limitations imposed by ASPR Section XV.

Allowable indirect costs are very broadly defined as the expenses of operating the manufacturing and related production departments, including shop or product engineering, selling or distribution expenses incurred in marketing the contractor's products (but pure commercial selling expenses applicable to activities not related to the contract products is not included, on the grounds that it is not necessary to the acquisition or performance of a contract with the Government), and the general and administrative expenses applicable to the general management, supervision and conduct of the business as a whole. Without attempting to segregate the allowable and unallowable items of cost into their respective categories of manufacturing, selling and general, let us examine the types of items in the lists of allowable and unallowable costs, recognizing that failure to mention any item of cost in these sections is not conclusive proof that it is either allowable or unallowable.

The following is a list of allowable indirect costs, with limitations indicated:

1. Advertising in trade and technical journals and "help wanted" ads—but it must offer financial support to journals which are valuable for dissemination of technical information within the contractor's industry. Advertising other than this is unallowable.
2. Bonds and insurance, except premiums for insurance on lives of officers and directors where the contractor is the beneficiary.
3. Compensation (including salaries, wages, royalties, license fees, bonuses, pension, retirement and deferred compensation benefits) of officers, directors and employees. This is subject to question and limitation as to amount after consideration of total compensation in relation to the services rendered.
4. Depreciation, amortization and depletion based on cost of acquisition, and plant maintenance and protection. No allowance is made for assets fully amortized or depreciated on contractor's books and there is no allowance for maintenance, depreciation and other costs

applicable to excess facilities, other than reasonable standby facilities.

5. Directors' fees and expenses, expenses of stockholders' meetings, annual reports, and reports and returns prepared for governmental authorities.

6. Freight, transportation and material handling charges, if not charged to cost of material.

7. Employee welfare expenses such as improvement of working conditions and standards of performance, pension, retirement, group health, accident and life insurance plans, training of personnel, and vacation, holiday, severance, sick and military leave pay as required by law, agreement or contractor's established policy.

8. Legal, accounting and consulting services and expenses, except that costs incurred for organization, reorganization, prosecution of patent infringement litigation, defense of anti-trust suits and the prosecution of claims against the United States are unallowable.

9. Membership in trade, professional and business organizations.

10. Taxes such as real and personal property, social security, state franchise and state or local income taxes. However, federal taxes on income and excess profits and taxes and expenses of financing, refinancing or refunding operations are unallowable.

11. Traveling expenses, subject to the administrative audit limitations as to amount prescribed by the procuring government department.

Unallowable Costs

Many of the unallowable costs have been covered above in connection with the limitations described as applicable to related allowable indirect costs. Whether treated as direct or indirect costs, the following types of cost are expressly unallowed:

1. Bad debts and reserves for bad debts.
2. Commissions and bonuses, under whatever name paid, for obtaining or negotiating for a government contract.
3. Contingency reserves.
4. Contributions and donations.
5. Entertainment.
6. Interest on borrowings (however represented), bond discounts and expenses, and financing charges.
7. Losses from sales or exchanges of capital assets.

8. Losses on other contracts.
9. General research, unless specifically provided for by the contract.

Subjects Requiring Special Consideration

It is impossible to give any full check list of subjects which may require special consideration and which would be applicable under all circumstances, for all industries and for every company. Each contractor knows his own business better than any one else and knows the peculiarities and eccentricities which make it just a trifle different from his competitor's. Armed with this knowledge, the contractor should review all the items for which he feels special consideration is necessary, before he approaches the bargaining table. The time for settling these matters is when the original cost proposal is submitted and the negotiation of the original letter of intent or definitive contract is accomplished. Preplanning of the contract terms prior to the execution of the contract is as essential as orderly scheduling of materials, manpower and facilities for the successful completion of the contract. That is not to say, however, that merely knowing what the contractor feels is required by way of contract terms will insure its inclusion in the contract. ASPR Section XV supplies examples of subjects which require special consideration and which, to be allowable, must be specifically provided for in the contract. Illustrative of the need for a complete review of the individual circumstances at the time of negotiating each contract is this partial list:

1. Anticipatory costs or costs incurred incidental to work covered by, but prior to the execution of, the contract. Requires specific identification of the types of work performed and the period involved.
2. Indirect cost basis—at actual, predetermined rate or amount, or other basis.
3. Insurance, liability to third persons and liability for government property in the hands of the contractor.
4. Intercompany and intracompany transactions.
5. Operation of restaurants and cafeterias.
6. Overtime compensation.
7. Rearrangement or relocation of facilities or plant sites.
8. Research programs of a general nature.
9. Possible compensation through a use or rental charge for fully amortized or fully depreciated facilities.

FIXED PRICE CONTRACTS

Fixed-price contracts today are generally considered to include such a variety of forms of pricing that a full understanding of the types of pricing articles included under this general heading is desirable. Of course, there is the pure fixed-price contract under which the parties agree on a firm price for the articles or services to be delivered and then there are a considerable number of types of price revision and price redetermination contracts, including the so-called incentive-type contract, where the parties agree on initial firm prices, subject to later revision or redetermination in accordance with the cost experienced under portions of the contract or for the contract as a whole.

In this connection, it is well again to refer to the contracting, pricing and profit policies announced by the Department of Defense, which stipulate that fixed-price contracts will be used without provision for price redetermination whenever practicable, that fixed-price contracts with provision for price redetermination may be used whenever contingency charges would otherwise be included in the contract price as a result of prolonged delivery schedules, unstable market conditions for material or labor, or uncertainty as to cost of performance, that incentive-type contracts may be used where dollar amounts are large, production periods long and when reasonably close target prices can be established, and that the use of cost reimbursement contracts is limited to those instances in which none of the previously mentioned types are suitable.

Price revision or price redetermination type contracting should be employed only under certain circumstances and each of the various types has its own peculiarities and conditions for use.

Specific Varieties of Fixed-Price Contract Forms

Form I provides for upward or downward price revision, negotiated at fixed periods with prospective effect only, and is to be used either for supplies or services where there is an absence of competition and where the price is negotiated on the understanding that a price redetermination article will be included in the contract and is a close price containing substantially no contingency charges. The contract is such that both parties are bound by the price for the fixed period (the periods may be measured by time, production, or delivery of items). Price is based on projections not extending beyond the end of the

fixed period. If periods are measured by time, they should conform with the operation of the contractor's cost accounting system but need not be of equal length.

Form II-A provides for redetermination of price either upward or downward, with prospective effect only, and is negotiated upon the demand of either party with specified limitations on the frequency of demands. There is a date set forth in the contract before which the first demand cannot be made and, customarily, subsequent demands cannot be made more frequently than every ninety days. The initial price, as well as all subsequent prices, are based on projections of costs extending over the period of the entire contract production and should take into account reasonably expected cost decreases.

Form II-B provides for both upward and downward negotiated price revision. The first period is fixed and subject to retroactive price revision, with only prospective revision available thereafter to both parties. Demand for revision may be made by either party subject, ordinarily, to the limitation that demands may not be made more frequently than every ninety days. This type of contract should be used where neither party should be bound by the initial price because that price is intended to be based on projections of cost which do not extend beyond the completion of the initial fixed point for price redetermination. The first period of price redetermination is usually expressed as a percentage of articles to be delivered under the contract and the percentage should be kept as low as possible but is never to exceed forty per cent.

Form III is to be used only where the contract amount is $100,000 or less and the items covered by the contract are strictly experimental or developmental in nature. The contractor must have a cost accounting system adequate to determine costs under the contract and the initial price may be revised downward only upon the contracting officer's demand after completion or termination of the contract and submission by the contractor of the cost accounting data required.

Form IV provides for downward or limited upward price revision, negotiated after the completion or termination of the contract. This type should be used only where the contract calls for experimental or developmental items or services and where it is recognized that the price, as originally established, is as close as circumstances permit and where Form II-B cannot be used in the contract.

Form V permits upward or downward price revision, to be negotiated

only upon the happening of a specified contingency and is limited to that contingency and its direct effect. The contingency or basic assumption must be clearly stated in the article and the contractor must warrant that the price originally charged contains no allowance on account of the specified contingency. This type of article may be used even though Form I or one of the Form II contract articles is used in the same contract.

Incentive-Type Contracts

Incentive-type contracts establish a formula by which the price revision and calculation of allowable profit is to be made. The price revision article may operate to decrease or increase the price, with a limitation on the upward revision, and is negotiated upon the completion or termination of the contract. A "target" unit cost is agreed upon—and set forth in the contract—at which point a specified profit expressed in dollars is added to arrive at the tentative billing price per unit. When the actual cost per unit varies from the target cost, the Government and the contractor share in either the cost decrease or the cost increase with limitation, ordinarily, on an eighty per cent and twenty per cent basis or eighty-five per cent and fifteen per cent basis. This type of contracting is to be used where dollar amounts are large, production periods long, and when reasonably close target prices can be established.

Except as to renegotiation or as otherwise provided for in individual contracts, there is no firm set of principles governing the determination of costs for this variety of fixed-price type government contract. For this reason, care should be exercised at the time of negotiating the contract to use some wording such as "costs hereunder will be determined in accordance with generally accepted and sound commercial accounting practices consistently followed by the contractor," together with other items as to which it is felt some disagreement may later arise.

Applicability of ASPR Section XV

This is all the more important since Joint Letter No. 12, signed by the Chief of the Army Audit Agency, the Director of Navy Cost Inspection Service and the Auditor General of the Air Force, provides that "in the absence of any other Armed Services cost standards and in order to provide uniformity from an audit viewpoint (including the

preparation of accounting reports under fixed-price type contracts)," it has been decided to use ASPR Section XV in all overhead rate determinations, audits and accounting reviews under fixed-price contracts as well as the cost reimbursement type contracts, unless the contract itself specifically provides different cost determination provisions. The auditor is required to separate costs into "costs accepted" and "costs questioned" in his report. Only costs considered to be allowable under the provision of ASPR Section XV are to be included under the "costs accepted" classification.

This letter precipitated a storm of protests from industry and, subsequently, the Munitions Board, in a memorandum to the Secretaries of the Army, Navy and Air Force, advised those services that there had been no change in the ASPR Section XV cost principles policy, that they were to be applied to cost reimbursement type contracts only, and that, therefore, these principles "shall not be used in negotiating prices under fixed-price contracts other than for the purpose of preparing advisory reports ... and by the Contracting Officers to the extent they deem it advisable, as a working guide only." In practice, the contractor must still negotiate as to the items in the "costs questioned" category at the time of negotiating the revision of price provided for in the cost redetermination clause.

OTHER MATTERS

As defense business further expands and the impact of long-term contracts for military articles makes itself felt more and more on government contractors' inventories, the need for workable contract termination settlement procedures becomes a matter of grave concern. The protection and procedures afforded by the Contract Settlement Act of 1944 are no longer available under the present government procurement contracts. Each contract has its own "termination" clause, varying in wording and procedure between cost-plus-fixed-fee and fixed-price contracts. The standard termination clause presently offered refers to ASPR Section XV as the basis for determining costs. By negotiation, it is possible to have this basis of cost determination removed and the contract remain silent on what the cost principles to be used for settlement will be or to substitute for the ASPR Section XV rules those of the Joint Termination Regulation.

The Munitions Board has been coordinating with industry repre-

sentatives the proposed Section VIII of the Armed Services Procurement Regulation on the subject of Termination of Contracts. There have been considerable areas of disagreement on such important matters as finality of settlement, value to be placed on inventory which becomes undeliverable because of loss or destruction, basis of and approval of settlements with subcontractors, interest on termination claims, and the inclusion and extent of use of a set of cost principles to be employed in settling fixed-price contracts. After much discussion, it appears probable that appropriate language revisions will be drafted to point up the concept that these cost principles are to be used only as a guide for purposes of negotiation. It is also anticipated that a workable regulation will ensue from the joint efforts of industry and government.

Accelerated Amortization, Pension Costs

One of the most vocal issues of the day is that of the certificate of necessity program. Not only is the manner of granting such tax amortization certificates under review, but the subject of allowance of the accelerated portion of the amortization in excess of normal depreciation as an item of cost in establishing initial prices under fixed-price contracts and retroactive and prospective prices under price redetermination contracts, as well as its allowance cost under cost-reimbursement contracts, is rising to the highest level of government officials. Mr. H. W. Bordner, speaking for the Department of Defense, gave a brilliant analysis of the whole amortization of emergency facilities question to the House Committee on Expenditures. Mr. Bordner's recommendations were that the principle of certifying only that portion of the emergency facilities applicable to the emergency period and excluding the estimated residual value at the end of the emergency be retained and that amortization should be allowed in full as a cost in product pricing and this should be binding on the procuring agencies. This proposal and recommendation of the Department of Defense are now understood to have been sent to Defense Mobilizer Wilson for his approval.

Another cost item of considerable interest today is that of pension and retirement plans. The first of a series of cost interpretations under ASPR Section XV to be coordinated with industry by the Munitions Board, prior to their issuance, is on the subject of pension and retirement plans. Terms are defined and conditions of allowa-

bility set forth. In essence, amounts paid or set aside in a given fiscal year or within the first six months of the following fiscal year for normal or past service costs are allowable items of costs subject to the limitation that, if amounts paid are less than the actual cost attributable to that year for normal costs or less than an equitable apportionment of the past service liability, only the amounts paid will be allowed. If the amounts paid are greater than the actual normal costs or an equitable apportionment of the past service liability, the excess may be carried forward to apply on the next following year or years until exhausted. Apportionment of the past service liability is considered reasonable if it is related to the number of years between the average age of participants at the effective date of the plan and normal retirement age. Contributions to the plan must be irrevocable and the plan must be approved by the Bureau of Internal Revenue, to be an allowable item of cost.

Implementing the Drive for Economical Production

In a period of combined defense and civilian economy, the element of competition is substantially impaired. Unless adequate control over costs is maintained from the beginning of such an economic period, inefficiencies, waste and high cost production will naturally follow where labor, materials and facilities are in short supply, all at the same time. The cost determination principles applicable to government contracts, although varying as to types and degree of allowability among the various cost regulations, do not materially differ from the concepts of sound commercial accounting practice. The need to give more detailed and analytical attention to the components of cost under government contracts, when added to the operation of the normal cost control systems, should only further strengthen the constant drive for efficiency and economy in production.

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SESSION II

ACCOUNTING PROBLEMS OF A DEFENSE ECONOMY—2

MONDAY AFTERNOON, JUNE 25, 1951

HERBERT T. McANLY, Partner,
Ernst & Ernst, Cleveland, Ohio, *Chairman.*

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Carman G. Blough has been Director of Research of the American Institute of Accountants since 1944. He was the first Chief Accountant of the Securities and Exchange Commission During World War II, he served as Director of the Procurement Policy Division of the War Production Board and represented the WPB on the Price Adjustment and the Contract Termination Boards.

A graduate of Manchester College and the University of Wisconsin, Mr. Blough has taught accounting and corporate finance in a number of universities and is now on the faculty of Columbia University. He is a Certified Public Accountant in several states and was at one time a Partner in the accounting firm of Arthur Andersen & Co A member of the American Institute of Accountants since 1929, he has served on many of its important committees, including the Committee on Accounting Procedures.

Harry E. Howell is currently serving as Consultant to the Munitions Board. Both a lawyer and a Certified Public Accountant, Mr. Howell is a member of the law firm of Howell & Bashaw in Boston and De Witt, Pepper and Howell in New York and has had a long and varied career in industrial accounting and government service.

From 1925 to 1944 he was Chief Financial Officer and Controller of a group of companies with headquarters at Providence, R I, including General Fire Extinguisher Co, and the Grinnell Corporation. From 1944 to 1946 he was Assistant Director of the Production and Purchases Division of the U. S. Army Service Forces, and received an Exceptional Service Medal and Citation From 1946 to 1949 he was Controller, Acting Director General, and Administrator for Liquidation of the United Nations Relief and Rehabilitation Administration.

Mr Howell has long been active in N.A.C.A. and was National President for the year 1941-42. He is past President of the Providence Chapter. Mr. Howell is a member of the American Bar Association, American Institute of Accountants and the American Accounting Association.

ACCOUNTING PROBLEMS OF RENEGOTIATION

CARMAN G. BLOUGH

Research Director, American Institute of Accountants,
New York, N. Y.

The idea of renegotiation originally was that it was a pricing device, would hinder inflation, and would prevent people from profiteering out of the war. It was believed that renegotiation would be able to accomplish what was needed without the evils inherent in higher excess profits taxation.

In the beginning it was expected that renegotiation would be carried out on an individual contract basis. However, it did not take long to demonstrate that such a procedure would be entirely impractical as well as unfair to contractors having both profitable and unprofitable contracts. Accordingly, the over-all method was developed early in World War II and this has been made mandatory under the 1951 Act.

Renegotiation during World War II had definite weaknesses. In its administration there was a tendency to maintain a general rate of profit on sales regardless of major economic reasons for differences. It is difficult to evaluate economies and efficiencies. It is hard to judge the extent to which various favorable or unfavorable factors are present in the individual case. No formula has yet been devised which would make it possible to apply standards of measurement to various companies and fairly determine the amount of their excessive profits on the basis of an objective calculation. In spite of many efforts to develop such standards, the basic requirements for a fair settlement continue to be that the renegotiators shall have sound judgment, absolute fairness of approach, and extensive knowledge of business practices.

Present Situation With Respect to the 1951 Act

The Renegotiation Act of 1951 became law on March 23, 1951. Much of it is modeled after the 1943 Act. One important difference is that it places the primary responsibility for renegotiation in an independent establishment in the executive branch of the Government known as the Renegotiation Board, instead of in the procurement agencies as heretofore. All five members are to be appointed by the President by and with the advice and consent of the Senate, but so far

no appointments have been made. The Secretaries of the Army, Navy, and Air Forces, and the Administrator of General Services are each to recommend one member, and these four members, together with a fifth to be appointed by the President without such recommendation, will constitute the board. The President will designate one of the five to be the chairman. The personnel of this Board will be the primary factor in determining the success or failure of the Renegotiation Act. It is essential that they be persons of broad business experience and of the highest judgment and integrity. They must not be political straphangers or ward heelers. Their integrity must be beyond reproach.

Until the Board is appointed and has announced its policies, we have no way of knowing what procedures will be followed in the process of renegotiation under the 1951 Act. The Renegotiation Board is forbidden to delegate or permit redelegation of authority to any person directly concerned with procurement functions. This, of course, was designed to, and will, prevent the renegotiation of companies by government officials who are responsible for the negotiation of contracts that are subject to renegotiation. This is different from preceding acts, so there is no way now of anticipating what the policies of the new board will be when it is appointed.

Until we do know something about the views of the new board, we can only speculate on what the problems will be in the renegotiation of contracts under this Act. We can make some assumptions, based on what was done under the Renegotiation Act that was in effect during World War II and what has been done more recently under the 1948 Act. Since in many respects the new act is like the 1943 Act, it is logical to assume that many of the regulations adopted under the old law will be readopted under the new. Undoubtedly a substantial number of the same accounting problems that we have heretofore experienced in renegotiation will again arise.

The departments whose contracts are subject to renegotiation under the 1951 Act are the Department of Defense and its three subsidiaries, the Army, the Navy, and the Air Force; the Department of Commerce; General Services Administration; Atomic Energy Commission; Reconstruction Finance Corporation; Canal Zone Government; Panama Canal Company; and Housing and Home Finance Agency. The law also gives the President authority to include the contracts with any other agency of the Government if he should determine that

it exercises functions having a direct and immediate connection with the national defense.

Three Classes of Exemptions

All contracts with these agencies, and subcontracts thereunder, are subject to renegotiation unless they are exempt. It should be noted that purchase orders or agreements to furnish office supplies to contractors are not to be treated as subcontracts. The law provides three classes of exemptions—mandatory, partial mandatory and permissive.

The mandatory exemptions are similar to those in the 1943 Act with certain important differences. The ones contained in this Act are:

1. Contracts by a department with a domestic or foreign government or agency thereof.
2. Contracts and subcontracts for agricultural commodities in the raw or natural state.
3. Contracts and subcontracts for minerals, natural deposits, or timber, up to the first form or state suitable for industrial use.
4. Contracts and subcontracts with utilities and common carriers at rates not in excess of published or regulated rates.
5. Contracts and subcontracts with organizations exempt from income tax (*e.g.*, educational institutions) but not including their business activities subject to income tax.
6. Contracts (and related subcontracts) determined by the Board to have no direct or immediate connection with national defense.

The partial mandatory exemption is an entirely new concept of exemptions. It requires the partial exemption of sales of new durable productive equipment. The exemption does not apply to equipment sold directly to a government department or agency or to any equipment that becomes a part of an end product or article acquired by the government. Neither does the exemption apply if the Government has the option of requiring the purchaser to vest title in the Government. Sales of equipment under pool orders and similar commitments placed in the first instance by a government department are included in the exemption if the title is actually transferred to a contractor or subcontractor within one year.

The formula provided in the Act for determining the portion of the sales price of new durable productive equipment sold to a contractor or subcontractor that is subject to renegotiation is purely arbitrary.

It exempts from renegotiation all of the selling price except that portion which is equal to the ratio of five years to the average number of years of useful life of the equipment set forth in Bulletin F of the Bureau of Internal Revenue (or as estimated by the Board if the class of item is not covered by the Bulletin).

Thus, for example, if a machine tool estimated under Bulletin F to last 20 years is sold for $10,000 to a contractor or subcontractor for use in producing renegotiable business, one fourth or $2,500 of the sales price would be subject to renegotiation. Of course, if the ordinary life of a piece of equipment for tax purposes is five years or less, the exemption would not apply.

As to permissive exemptions, the Act specifies certain classifications of contracts and subcontracts which the Board may, in its discretion, exempt from renegotiation, either individually or by general classes and types. The following permissive exemptions are reenactments of provisions of the 1943 Act:

1. Contracts and subcontracts to be performed outside the continental United States, or in Alaska.
2. Contracts and subcontracts of various types under which, in the opinion of the Board, the profit can be determined with reasonable certainty when the contract price is established.
3. Contracts or subcontracts, or performance thereunder for a specified period, if, in the opinion of the Board, the contract provisions will prevent excessive profits.
4. Subcontracts, the circumstances of which are such that the Board finds it administratively infeasible to segregate renegotiable profits.

In addition to these carryovers from the 1943 Act, the new law authorizes the Board to exempt contracts or subcontracts the renegotiation of which would jeopardize secrecy required in the public interest. Presumably this will cover some contracts with the Atomic Energy Commission and perhaps others. It should be noted that an exemption under the permissive authority of the Board does not automatically exempt related subcontracts, whereas, in the case of mandatory exemptions the subcontractor is automatically exempted also.

The statute specifically excludes from renegotiation under the 1951 Act any amounts received or accrued on or after January 1, 1951 which are attributable to performance prior to July 1, 1950 and does

not apply to any amounts received or accrued prior to January 1, 1951 unless the Board and the contractor should agree to their inclusion.

The contractor's or subcontractor's fiscal year is to constitute the renegotiable year unless the Board and the contractor or subcontractor agree otherwise. Information, the nature of which is to be specified by the Board, is to be filed not later than the first day of the fourth month following the close of the fiscal period. Renegotiable type business of $250,000 or less is exempt and the renegotiation of a larger amount may not reduce the aggregate selling price below $250,000. In the case of agents, such as the so-called 5 percenters, the comparable minimum is $25,000

Segregation of Sales

Regardless of the rules and regulations that may be issued by the new Board, one of the first and most difficult accounting problems to be faced undoubtedly will be the segregation of sales. This was very difficult during the last war, but it is expected that it will be even more difficult under existing conditions. During World War II, there were many companies that were producing entirely for government contracts. Furthermore, we had the controlled materials plan, which required priorities for the acquisition of goods which in turn formed a helpful basis in most cases for determining whether they were destined for renegotiable government business or not. It seems obvious that the currently used defense orders cannot serve the purpose in this respect that CMP did during World War II.

Under the present Act, each department is required to insert in each contract a provision under which the contractor will do a number of things, including the insertion in each subcontract, as defined under the Act, of a provision under which the subcontractor agrees to the elimination of excessive profits through renegotiation. Presumably the existence of such a clause in the subcontract will be a notice to the subcontractor that it is subject to renegotiation. However, it would not be surprising if many of the prime contractors would take the position that, when they are in doubt as to whether the contract is subject to renegotiation, they should insert a clause in the contract just to be on the safe side. Accordingly, if too much reliance is placed on the existence of the clause in the subcontract, more business may be treated as renegotiable than is necessary.

Another difficulty in the segregation of sales is the fact that there

are more exemptions under the new Act than under the old. As mentioned previously, some of these are mandatory and others will be at the discretion of the Board. Accordingly, the mere fact that an item is to have a government end use does not mean that it will always be subject to renegotiation. It may be one of the exempted items. It will pay well to study the exemptions carefully and determine whether or not any of them apply.

If a company should find that a detailed analysis of its sales is a task which is too great to accomplish without unreasonable effort and expense, it may prove helpful to try to work out some over-all procedure which will result in a fair allocation. If it succeeds in developing one it considers fair, it should then try to get the Board to approve the procedure in advance. From past experience, it is not safe to assume that when the case is up for renegotiation approval will be given.

Costs Allowable in Renegotiation

The costs, allowances and deductions allowed under the Act are those allowed for income tax purposes which are allocable to renegotiable business except for the loss carry forward and carry back. The segregation of costs will probably create about the same problems it did during World War II. It might be desirable to segregate them as between prime contracts and subcontracts. It is possible that different cost allowances may be given to the two types of business. Certain types of costs have come in for a lot of discussion and seem to carry a good deal of emotional stimulus. Such costs as advertising, sales promotion, and contributions are looked at much more critically when they are paid by prime contractors than when they are paid by subcontractors.

Amortization of Emergency Facilities

Amortization of emergency facilities under certificates of necessity must be allowed under the statute, though there is a bill in Congress now, and some agitation for its passage, which would call for its disallowance. However, the bill is expected to fail and certainly, in all fairness, it should fail. Any other costs allowed for tax purposes must also be allowed in renegotiation provided they apply to renegotiable business.

Some of the agitators for the disallowance of the amortization charges as costs of government contracts are either woefully ignorant

of the principles involved or deliberately unfair to government contractors. For example, one of the arguments heard most often is that if amortization were allowed as a cost of government contracts and as a tax deduction, it would be allowed twice. Obviously that is falacious reasoning. The costs of labor and materials are allowed as deductions for income tax purposes yet no one questions the right to treat them as costs of government contracts. Why should the cost of productive property used up in the performance of government contracts be treated any differently?

In calculating depreciation it may be worth while to analyze the operations to determine whether some of the facilities which do not carry certificates of necessity should not be depreciated at accelerated rates on the basis of accelerated usage. Many facilities that were not acquired for the emergency and for which no certificates of necessity were ever requested may be subject to much more than normal depreciation due to their heavy operation during the emergency. Sound accounting requires that this be recognized.

The question of the method of allowing amortization of facilities under certificates of necessity in renegotiation is one which the Board will have to settle. During World War II there was not entire uniformity in the way this was handled. One of the agencies subtracted the amount of the amortization from the amount of excessive profits, after the excessive profits had been determined without benefit of amortization in the costs. The other agencies treated the amortization as a cost just the same as they would the depreciation element.

Contributions; State and Local Taxes Based on Income

Contributions usually contain amounts that will undoubtedly be seriously questioned. There is no way of telling at this time what will be allowed and what will not. Under the 1943 Act, contributions were allowed in normal situations. Under the 1948 Act, where it was expected that the same policies would be followed, they were disallowed. Care will have to be taken in classifying contributions, however. Under the Internal Revenue Code, certain types of payments which companies have been accustomed to consider business expenses have been interpreted to be contributions. Undoubtedly the interpretation of the Bureau will have some effect on the classifications of the Renegotiation Board.

The problem of state and local taxes, when measured by income,

will undoubtedly create a considerable amount of trouble again. During World War II they were disallowed as costs and the amount of the state taxes applicable to the amount of income considered to be non-excessive was then allowed as a deduction from the amount of the excessive profits, regardless of whether the state made any allowance for the return of the excessive profits or not. The 1951 Act appears to require this kind of procedure.

The Raw Material Exemption

It is important to recognize the approach of renegotiation before it is reached and to plan for it during the year that is subject to renegotiation. Many times a great deal of work can be saved if the company is conscious of the need to make determinations for renegotiation as it goes along. For example, profits attributable to the increment in value of excess inventory of agricultural products, gas, oil, other minerals and timber in their raw material state are excluded in determining excessive profits. If a company wishes to claim current market value for any such excess inventory when calculating costs of contracts in which that inventory was used, it would be well advised to make the valuation and prepare the supporting data at the time the work on the contract is begun. Segregations of sales and allocations of questionable costs are also accomplished much better, as a general rule, throughout the year than after its close.

The mandatory exemptions for all profits from agricultural products up to the first form or state in which they are customarily sold and from minerals and timber up to the first form or state in which they are suitable for industrial use, are worded exactly as they were in the 1943 Act. It is reasonable to assume, therefore, that they will be administered in much the same way.

The raw material exemption requires a great deal of accounting information, in the case of the integrated producer, as to value at the last exempt stage. This will, in many instances, necessitate the collection of a good deal of information as the year progresses and may become very important. Trying to build costs on a non-cost figure is not an easy job.

Where it is not customary to reach an exempt stage, as in the case of some of the large steel companies which by-pass the pig-iron stage and carry the molten metal directly to the next stage of production, it may be very difficult to calculate the costs added to the value of a raw

material at the last exempt stage. The company which has this problem should study its accounting and production procedures with a view to developing information to establish such values and the costs built upon them, in a way that will hold up under severe scrutiny.

In some cases, an important fact to note is that a product may be specified in the Act and yet there may be no market for that product which is at all representative of its real value. For example, in the case of iron and steel companies the last exempt stage is pig-iron, yet the amount of pig produced by the companies that sell pig is, apparently, very small in proportion to the total amount of iron produced. The large steel companies, therefore, may be governed in the valuation of pig-iron by a price in a market which is very artificial considering the quantities they use. Such a company may have to develop a value that is much more realistic than that which the pig-iron market quotations indicate.

Special Matters

One of the things that should be emphasized is that the Armed Services Procurement Regulation (Section XV) is not a guide for renegotiation. Neither are the other rules governing contract costs in cost-reimbursement type contracts or in fixed-price contracts subject to price redetermination. The provisions under the Internal Revenue Code are much more likely to govern than these. However, it would not be surprising if efforts were made to use rules governing contract costs as authority for ruling that certain types of costs are not properly allocable to renegotiable business.

In some cases, companies on the "lifo" basis of inventory valuation will have to dip into their basic inventory stocks for renegotiable contracts with a very high resulting profit. Such situations afford a sound basis for requests for special consideration and companies in that position owe it to themselves to present the facts. Some companies on the "fifo" basis may be in competition with companies on the "lifo" basis and, accordingly, may show a much larger profit. Properly developed information of that type should also be recognized as worthy of consideration. Other costs which are not recorded in the accounts, such as the use of fully depreciated or fully amortized property, may be significant in some instances and are well worth factual development.

It may be important to know that, as a general rule, it is probable that deductions will be considered allowable only in the year in which

they are allowed for tax purposes, unless some special agreement is entered into between the contractor and the Renegotiation Board, which provides for switching from the accrual basis to the completed contract basis. In some cases, unless such an agreement is reached, the contractor may be seriously penalized because some of his costs will not be allowed for tax purposes in the year in which the revenues are reported.

For example, such costs as the cost of making good on guarantees, sales discounts, et cetera, may not be allowed against the contract in some cases. During World War II special agreements were often made for retroactive wage disputes which were unsettled at the date of renegotiation. Under the old regulations, provision could be made for deducting subsequent retroactive settlements from the excessive profits. Presumably the new Board will find it necessary to permit such arrangements also Companies that take contracts in which they expect to have heavy development expenses in the early stages of the contract may also find it desirable to arrange for a variation of their accounting basis by agreement with the Renegotiation Board. Otherwise they may find that the heavy development expenses in the earlier period are not allowable as deductions after the contract is in its more profitable later stages.

If the companies and the Board agree, affiliated companies may be renegotiated on a consolidated basis. Companies which meet the requirements of the Internal Revenue Code for filing consolidated income statements, if all the companies in the group so request, must be renegotiated on a consolidated basis. The Board cannot insist upon renegotiation on a consolidated basis unless the companies agree.

Loss Carry-Forward Provision

The 1951 Act has a provision for carrying forward losses, which did not exist in any of the previous Acts. There was nothing similar in the 1943 Act, and no formal provision was made for allowance for losses of prior years though they undoubtedly had an effect upon the attitude of the renegotiators. Under the 1948 Act, the regulations did provide for taking into consideration the losses of prior periods as a factor in fixing excessive profits, but did not provide for the treatment of such losses as deductions. The 1951 Act, however, provides for the deduction of a loss of the immediate prior year as a cost unless it resulted from inefficiency of the contractor. Being a part of a formula,

it must be calculated and set forth. The Board will have to allow it as a cost unless it makes a finding that the loss was due to the contractor's inefficiency.

There will arise, however, a question as to what the Board will do in a situation in which a company has had an inadequate profit in a prior year. Under the 1948 Act, the Board looked at the inadequate profit of the prior year or losses of prior years and took them into consideration as a factor. Will the Board under the 1951 Act be disposed to give any consideration to this factor or will it interpret the provision for allowing the carry-forward loss deduction as a restriction on its right to recognize any other loss or inadequate profit as a factor? If the Board should adopt such a policy, the 1951 Act may result in a tightening rather than a liberalizing of the policies adopted under the 1948 Act. However, since the legislative history of this provision does not seem to justify any less consideration of losses or inadequate profits, it seems reasonable to assume that the new Board will view this provision as a legislative directive to give more consideration to such situations.

Outside Assistance

Forms for filing with the Renegotiation Boards have, in the past, required that independent certified public accountants' reports be attached to them, where available. Whether this will be required under the new regulations or not, undoubtedly many companies will find their certified public accountants helpful in making up the reports for the Renegotiation Board and in planning the preparation of the data to be submitted. Probably C.P.A.s will not be able to certify as to the accuracy of the allocations between renegotiable and nonrenegotiable business because, in most cases, these allocations will be of such a nature that it will be impossible to audit them. Nevertheless, the experience of the professional C.P.A. is such that he will usually be able to give considerable help in reaching a fair basis for allocation.

What the Renegotiation Board Must Consider

The 1951 Act provides that "in determining excessive profits favorable recognition must be given to the efficiency of the contractor or subcontractor, with particular regard to attainment of quantity and quality production, reduction of costs, and economy in the use of materials, facilities, and manpower." In addition to this broad basic

charge the law also specifies that there shall be taken into consideration the following factors:

1. Reasonableness of costs and profits, with particular regard to volume of production, normal earnings, and comparison of war and peacetime products.
2. The net worth, with particular regard to the amount and source of public and private capital employed
3. Extent of risk assumed, including the risk incident to reasonable pricing policies.
4. Nature and extent of contribution to the defense effort, including inventive and developmental contribution and cooperation with the Government and other contractors in supplying technical assistance.
5. Character of business, including source and nature of materials, complexity of manufacturing technique, character and extent of subcontracting, and rate of turn-over.
6. Such other factors the consideration of which the public interest and fair and equitable dealing may require, which factors shall be published in the regulations of the Board from time to time as adopted.

In preparing for a renegotiation, it is important that these statutory guides to be considered in determining excessive profits be carefully studied with the idea of attempting to develop as many objective measurements of them as possible. Comparisons in accounting terms are very helpful in convincing the renegotiation authorities that a company has been efficient, has assumed a risk incident to reasonable pricing policies, and that it has kept costs down. For example, figures showing the trends of material content, wastage or spoilage, man-hour production, and similar data, are always helpful in presenting a case and are much more convincing than unsupported assertions.

"Don'ts" for Renegotiation

In conclusion it might be well to mention a few "don'ts" to be observed in connection with renegotiation.

Don't question the constitutionality of the Act. If the Act is unconstitutional it is not for the Board to say so. If you really think it is and want to force that issue, take it up in the proper court of law. Only irritation can result in arguing it before the Board.

Don't send a boy to market. In other words, don't send a minor official to represent the company in renegotiation. Any idea that by doing so he will get information which can later be used by some of the top officials in a new hearing is entirely fallacious. The job is one which calls for the best of the top management. Only they can present the facts and carry the conviction necessary to a fair settlement. Once

a hearing is held and a figure proposed by the Board, it is much harder to get favorable consideration to a new line of argument than if it is advanced before a decision is reached.

Don't challenge the qualifications of the renegotiators or their integrity. It will not make them any more kindly disposed, and you have your chance for review before the Tax Court.

Don't say "yes" or "no" immediately. It is for the corporation's board to make the decision and a snap decision by the corporate officers, no matter how high they are, is not the orderly process. It is desirable, however, for the corporate representatives to give some indication as to how they feel and why and what their recommendation to their board will be. In that way the Government's renegotiators have a basis for deciding whether the proceedings have been concluded or whether further conferences are likely to be required.

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PANEL SESSION—THE ROLE OF COSTS IN A DEFENSE ECONOMY

CARMAN G. BLOUGH, HARRY E. HOWELL,
CHARLES E. HEADLEE, EARL R. UHLIG

CHAIRMAN McANLY: We will start out with some of the easy questions. Anyone who disagrees or cares to add anything may raise his hand and we will make it possible for him to join in the discussion.

Now, to let Mr. Blough get his breath, I will start out with a question for Mr. Headlee. This is on OPS control Regulations 22 and 30. In the questioner's company, it was necessary to accept business at extra low prices during the base period. At the same time, material costs were too high. The situation was not corrected until after July 1, 1950, but, under the OPS formula, this results in a roll-back from the GPCR ceiling prices. What course for relief can be taken? The company is not operating at a loss.

MR HEADLEE: I know the writer of the question might have this problem, that it is not an unusual situation, and that they can be real hardship cases. You can go back to the earliest base period and get the benefit of all the material price increases.

That will get you in on the steel price increase in November of 1949 which was sizeable, if you used much steel. But beyond that, there is not very much that I can tell you that you can do but to roll your price back. You might be able to get relief from the announced policy of Eric Johnston if one-half of your industry has a profit below eighty-five per cent of the profit in three of the best four base period years of 1946 through 1949. Unless you can get relief through that formula or through being in a loss position, which you say you are not, I do not see any way you can get any deserved relief under the present regulations.

CHAIRMAN McANLY: Mr. Howell, do you have anything to say on that, or does anybody else? Well, here is a little more for you, Mr. Headlee. Under CPR 22, what is your opinion of applying the average per cent increase in material prices determined by a sample of, say, eighty per cent of material costs, to the remaining twenty per cent?

Mr. Headlee: We probably would have had justification for going farther with that approach had we filed prices on May 28, than is now justified since we have had an additional thirty-five days. Nevertheless, some of us are still going to be pinched for time to comply with the regulation. I am of the opinion that OPS should permit this approach in some instances and undoubtedly they will if you disclose the fact and do not use the approach as a convenience and not as a means to a higher price.

I have no authority for that statement whatsoever other than judgment and logic. If you happen to select the eighty per cent of your materials that had an increase and ignored the twenty per cent that did not have an increase, I do not think you would have been justified. But if you selected the good with the bad and it was really a true sampling and a complete sampling, I think it would be justified. I would disclose procedure in filing prices.

Chairman McAnly: Mr. Headlee, there is one more here. This is apparently a challenge to something that you said in your address this morning. You are interpreted as saying that price control does not control prices and the inquiry is "How about the experience in restricting price inflation during World War II?"

Mr. Headlee: I said price controls do not control inflation and I believe that is true. There is no inflation control from price control. What happened after the prices were de-controlled is evidence of that, and we are not going to control inflation merely by temporarily controlling the price.

Chairman McAnly: Further on in this question, the inquirer says, "Is it not true that prices soared after discontinuance of price controls?" He is more or less answering the question as you have.

Mr. Headlee: Yes, and it was only a question of when you were going to de-control prices. Certainly, you cannot go on increasing costs and not increase prices. You can take out part of the profit or take out all of the profit, but the business will not last very long if you take it all, and unless there was an excessive profit, the business will not last indefinitely if you take away part of it. In my opinion, there is no inflation control by controlling prices if some costs or prices have already become inflated beyond others or are permitted to do so.

Chairman McAnly: Here is a question for Mr. Howell, I believe. What determines allowable costs for contracts with the Atomic Energy Commission or for subcontracts thereunder?

Mr. Howell: If that question is designed to ascertain whether the ASPR applies, so far as I am aware, they apply only to the armed services, but the Atomic Energy Commission, in fact all of the government agencies, are working very closely in the matter of applying certain principles in the ascertainment of costs and prices. And, as you know, the contracts with the Atomic Energy Commission are subject to renegotiation and I should expect that the ASPR, if and when complete, would certainly be used by all the government agencies as a guide. You will not find anything, any startling departure, in the procedure of one agency from another, but there are variations, due to lack of uniform regulations, that justify a contractor in selecting the agency that offers the best terms.

Chairman McAnly: Mr. Uhlig, here is one for you on costs of government contracts. You are asked whether you would care to comment on the next step, how these costs are used to set bid prices for advertised bid contracts? What are special considerations to recognize, as distinct from regular trade prices of similar consumer products?

Mr. Uhlig: That is a large question. I think, to some extent, I attempted to cover that this morning in my discussion here before you. In the bidding on a formal advertised contract, of course, there is no requirement that you must follow any of the ASPR regulations or any of the "cost bibles" that have been laid down. There is, however, in the negotiation of a fixed price contract, in the submission of the bid proposal and the cost submission that accompanies it, a requirement to negotiate with the contracting officer along the lines of Section XV of ASPR but, again, there must be taken into consideration the Munitions Board pronouncement which I reminded you of this morning, that this section was to be advisory only, as to the contracting officer and it was to be used only as a guide.

I think I have covered generally the fact that ASPR Section XV is to be a guide only in negotiation of fixed price contracts through the use of the principles there expressed. Obviously, as to the setting of any overhead rates for pre-determined overheads (as to rates or amounts) and also, obviously, as to negotiation of any of the cost reimbursement type contracts, the principles of ASPR Section XV will always govern during the setting of the prices.

Chairman McAnly: Well, the second part of that question is, "What are special considerations to recognize as distinct from regular trade practices and prices of consumer products?

MR. UHLIG: That is another large field, *i.e.*, the place of the usual standard trade practices as a governing element in prices of advertised contracts. As to the establishment of prices on fixed price contracts through negotiations only, to the extent that established trade practices do not deviate from the principles of ASPR Section XV, they will stand. However, only through your ability to continue to negotiate the advisory audit through the contracting officer and his accounting representative, can you prevent moving away from your established accounting practices. It is always a negotiation and an effort on the part of the Government to buy an article at the lowest possible price it can.

CHAIRMAN MCANLY: Here is another one for you, Mr. Uhlig. Have you ever actually received a *definitive* fixed price in negotiated contracts in which it was possible to eliminate specifically ASPR Section XV and obtain cost allowances of items prohibited in it?

MR. UHLIG: Yes, not only in my own experience and the company with which I am associated, but, likewise, in the experience of other companies in the same industry. In fact, these negotiated fixed price contracts, including the cost reimbursement type or the cost re-determination and incentive type contracts, do not spell out ASPR Section XV in any way. There is sometimes an attempt to get it into the cost re-determination clause, but there are many instances in which both my company and others in the same industry have received negotiated fixed price contracts which have wording such as I suggested this morning prescribing cost procedures in accordance with generally accepted and sound accounting practices, consistently followed by the contractors.

CHAIRMAN MCANLY: Mr. Howell.

MR. HOWELL: I would like to point out that if you do find some similarity between the approach of the contracting officer to the items considered allowable items under Section XV it may not be Section XV which is being applied. It is the duty of the contracting officer to obtain the best possible price, to get the maximum quantity of material and services for the money which has been appropriated. It is no good to him to know that Renegotiation Board two years later may recover something. It does not help control inflation to pay excessive prices for articles with the thought in mind that something will be recovered later.

Now, a contracting officer, whether Section XV existed or did not

exist when he is negotiating a fixed price contract, with or without price re-determination clauses, is going to look askance at excessive increases in salaries. He is going to look askance at a company which ordinarily gives $2,000 to the community fund and then suddenly pops up with $25,000. He is going to look askance at the company which ordinarily spends $50,000 for advertising and suddenly blossoms out with half a million. Those things are going to be questioned as to whether or not it is fair to include them in the price. In other words, the contracting officer is going to be like your customer in highly competitive circumstances. Like your other customers, the Government is going to have to pay for those things. The contracting officer is seeking to negotiate a competitive price. So, I do not think you want, necessarily, to tie the two things in, *i.e.,* Section XV provisions and the requirements of a contracting officer on a negotiated contract.

As Mr. Uhlig has pointed out, the contracting officer may seem to be, and in fact sometimes is, more lenient on the matter of allowable costs when negotiating a fixed price contract. But it should be very clear that this is not the exercise of discretion because of some whim or of some preference, but rather it is a recognition of the fact that when a contractor accepts a fixed price contract, even if it has a price redetermination clause, he is accepting a definite risk and he is not passing the risk back to the Government. If the price is fair and reasonable, and the contractor thus accepts certain business risks, there is no occasion for the contracting officer to apply the principles which govern the situation in a cost reimbursement type contract where in essence the contractor accepts no risk and uses the Government's money to perform the contract. With a cost reimbursement type contract, the Government is assuming the risk and it is only fair, it seems to me, that when the Government does assume the risk, it should exercise a far greater degree of control over what is considered reimbursable. I think, therefore, you will find that, where you are willing to set a fixed price, and I certainly recommend it, there will be less of a detailed audit or detailed inspection of the items which might be considered disallowable.

It just so happens that the usual types of items which a contracting officer would disallow in a fixed price contract, happen to be those which have been singled out for specific mention as unallowable under the cost reimbursement contract, but I do think you should understand something of the reasoning back of it.

CHAIRMAN MCANLY: I think we have a few questions for Mr. Blough. Here is one. The 1951 Renegotiation Act lists Commerce Department contracts as being subject to renegotiation. Does this include all agencies under the Commerce Department, such as the Census Bureau or only the Commerce Department itself?

There is also another similar question. I might ask them both and you can answer them together. The second one says, "In a situation where it has been the normal practice for the General Services Administration to purchase all of the requirements of the Post Office Department, Departments of Agriculture and Interior, Alaska Road Commission, Coast Guard and Atomic Energy Commission for certain products, such as motor trucks, is it probable that purchases made for nondefense agencies in this group will be exempted from renegotiation under the 1951 Act as not having a direct and immediate connection with the National defense?

MR. BLOUGH: As far as I can see, the statute does not make any distinction between defense contracts and nondefense contracts with departments named in the Act. I would think that all contracts with those departments would be subject to renegotiation, whether they are in connection with defense or not, although certainly the theory of the Act is that it is directed to defense-type contracts. That is evidenced by the fact that the President is permitted to bring in under it any department which he finds does have a lot of business which is tied in with national defense.

While I am on this microphone, I would like to clarify something in my talk to which Mr. Howell has called to my attention. I said that under the 1951 Act no business which was done prior to July 1, 1950, is subject to renegotiation. It is not subject to renegotiation under the 1951 Act, but I do not want you to forget that it may be subject to renegotiation under the 1948 Act. If it was subject to renegotiation under the 1948 Act, it is still subject to renegotiation under that Act. I did not mean to imply that anything that you did prior to July 1, 1950, was no longer renegotiable. If it was renegotiable under the 1948 Act, it still is.

CHAIRMAN MCANLY: Here is another one. If a company's fiscal year is the same as the Government's, July 1 to June 30, how should it file its renegotiation reports and allocate sales under the 1948 and 1951 Acts which are applicable?

MR. BLOUGH: I have here the analysis of the contract renegotiation

act put out by the Department of Defense, which Mr. Howell just showed me. It says this: "With respect to those companies which are not on a calendar year basis and who have receipts or accruals subject both to the 1948 and 1951 Acts, it is provided that by agreement the entire year may be renegotiated under the 1951 Act, thereby avoiding the necessity of conducting two renegotiations with respect to one fiscal year." That does not answer your question specifically, but indicates what may be done.

CHAIRMAN MCANLY: Does anybody else have anything to comment on this question?

C. J. KRASNAK (*Contract Administrator, Collins Radio Co., Cedar Rapids, Ia.*) : As I understand you, the portion of a fiscal year prior to January 1, 1951, can be re-negotiated under the 1948 Act, but there is an option of reaching an agreement to negotiate both portions of the fiscal year under the 1951 Act.

MR. BLOUGH: That is right.

CHAIRMAN MCANLY: I have another question here, to any member of the panel. Probably Mr. Howell should answer this first. Are there any circumstances which compel a contractor to accept contract re-determination from any defense department if material and labor costs are substantially determinable when a contract is awarded and if there is no contingency factor in the price? That is a good question.

MR. HOWELL: Well, I do not think there is any compulsion to take the price re-determination clause. I think there is no difficulty if you are willing to quote a fixed price which has no contingency allowances or extra profit cushions. If the contract and the costs are reasonably determinable and it is not going to last a long period of time, and if you want to take that gamble with the Government, a contracting officer will go along with you, but it is quite a gamble, with the Government controlling wage costs and materials' costs and taking over large elements of our raw material supply and setting the price.

I should think, unless you had material on hand and were pretty sure about labor conditions and knew you were going to finish the contract in a short time, that you would want the price re-determination clause and you would not feel that it was forced on you. If, however, you want to take the risk and you have not got excessive loading, I imagine the contracting officer would be only too glad to see you take it.

CHAIRMAN MCANLY: Are there any questions from the floor? We are not running out up here. We have a bushel of them up here.

W. R. Sieplein (*Sherwin-Williams Co., Cleveland, Ohio*): I would like to ask a question. In price re-negotiation, what provision is made for selling expense, as a selling expense is an element of cost?

Mr. Blough: In renegotiation if the expense is applicable to the contract it is deductible, but there is a question of whether it is applicable to the contract. There you may run into difficulty, if you are a prime contractor dealing directly with the Government, in attempting to show that you have any selling expenses which are attributable to Government contracts. On the other hand, if you are a subcontractor, as a general rule, it is not too difficult to show that your selling expenses are necessary to getting business from the prime contractor as well as other people to whom you sell your goods. It is largely a matter of individual cases as to what kind of showing you can make. There was a tendency, during World War II, on the part of the Board to question whether any companies had to go to very much expense to sell a product to the Government and, therefore, a good many of the advertising and selling expenses were looked on with considerable dubiousness.

Mr. Howell: I think that some of the questions on selling expenses arose in this manner. Let us realize that even in World War II many companies which expected their commercial business to drop off did not experience a drop. In fact, it increased. Now, let us say that a company has a million dollars of ordinary commercial business and ten per cent sales expense. It continues to do that business and it has a million dollars worth of defense work too. It divides sales expenses over two million dollars and then says: "Well, that is our accepted accounting system." Certainly, in the cost accounting profession, we should not say, merely because we do something which has no sound basis and keep on doing it consistently, that it is a sound method.

I think, wherever the form of allocation results in the commercial business being charged with a lesser per cent or amount than it has customarily borne over the years, you will find that the item will be questioned if you try to allocate a portion to defense. We have been so careful about precise allocation in manufacturing expenses that, if we come to administrative costs and spread them over the total sales without any regard to causal responsibility or any other criteria of sound cost determination, we cannot claim that is a "system" or one which can be logically supported when those sales include a large volume of defense contracts.

Mr. Sieplein: Does not the Government recognize that there is an amount of selling expense in handling the order?

Mr. Howell: I should say, as Mr. Blough pointed out, if you can show by ordinary principles of cost accounting how certain expenses arose, I do not think you will have any trouble. When you take your total sales expense and divide it over totals including defense sales, then you will find yourself in trouble.

James D. Wilson (*Controller, Plaskon Division, Libby-Owens Ford Glass Company, Toledo, Ohio*): I have a question for Mr. Blough. In our plastics business we are finding that many of our customers are, if there is a bit of doubt in their mind, telling us that business is renegotiable. Consequently, in tabulating our sales, the renegotiable sales are probably grossly overstated. Is there any provision for a review of those reported renegotiable sales?

Mr. Blough: I do not know what to suggest as a practical way. I anticipated, I think, in my original comments that the probabilities are that some prime contractors would tend to insert the renegotiation clause in some contracts where it does not apply. If you have any basis to doubt, you might very properly open the matter up with your customer and ascertain more precisely what his basis is.

Whether you can follow it through yourself and make the determination, would be a question of fact in the particular case as to whether you could get enough evidence to satisfy yourself. The Board, in checking your method of allocating sales to renegotiable and nonrenegotiable business, would undoubtedly want to know what steps you were taking in going back of what your customer had stated. However, I would think any reasonable procedure for finding out what the facts were would stand up with the Board.

Chairman McAnly: I have a couple of questions here for Mr. Uhlig. Are costs of preparing Government records and accounts necessary for Government contracts an allowable expense and has such allowance ever been actually granted in redetermination?

Mr. Uhlig: That is a lot of question all in one little bit. Ordinarily the costs of preparing the records for Government contract and price redetermination are allowable only to the extent that they would ordinarily be accomplished through a distribution of overhead. To a large extent those costs would be indirect costs, obviously, and would be distributed to the business in the house and it would be presumed that government business would take a portion of it.

There are, however, certain provisions in connection with war contracts, that you can recover the necessary cost of preservation of records and retention of them, including also the cost of preparing the underlying claim allowed as a broader redetermination settlement.

CHAIRMAN McANLY: Here is another question addressed to you. Do government auditors, in your experience, interpret advertising, interest, donations, and general research expense differently under cost-plus fixed fee contracts than under fixed price contracts negotiated with a price redetermination clause? I have heard that cost-plus audits are much more stringent.

MR. UHLIG: You may recall that during this morning's discussion, I said that these items which Mr. McAnly has just mentioned, were the subject of advisory audit only, under fixed price contracts and were not binding upon the contracting officer. The auditor is required through the directive known as Joint Audit Letter No. 12 to separate such costs into the "Cost Questioned" classification.

It is then the responsibility of the contracting officer to determine whether, in his judgment, such costs are proper for inclusion in the cost determination and it is likewise the responsibility of the contractor to tell the contracting officer that it is proper under the circumstances.

The auditor has no area of judgment as to whether he does or does not report that type of cost in segregating the cost for the purpose of the cost redetermination audit report, if the contracting officer asks for it. The contracting officer need not ask for an advisory audit.

CHAIRMAN McANLY: Mr. Blough is asked whether "permissive exemption" under Renegotiation Act includes foreign corporations or does permissive exemption for contracts performed outside of the United States relate only to domestic branches and subsidiaries operating abroad?

MR. BLOUGH: It would apply to both foreign companies and domestic companies in government contracts performed outside of the United States.

CHAIRMAN McANLY: All right, here is another one The Renegotiation Act of 1948 has been superseded by the Act of 1951, which Act provides that all contracts unshipped as of January 1, 1951 are under the 1951 Act. How about contracts unshipped as of January 1, 1951 but received in 1949-1950 and contracted for under Public Law 413 and which were not renegotiable? Are these contracts then re-

negotiable? Contracts under question are fixed price awards under sealed bids.

MR. BLOUGH: I do not know the answer. I do not know whether, when the work is done but the goods are not shipped, they would come under the law. I think they would probably come under, since there has been no delivery under the contract.

Previous exemption would not exempt them from the new act. The whole question is whether or not they would be subject to renegotiation under the 1951 Act, in themselves. It would not make any difference when the contract was let. The question would be when performance was completed. I would think that would be measured from the time of shipment. Since shipment was not until after the 1951 Act begins to apply, I would reason that the business would be subject to renegotiation under the 1951 Act.

CHAIRMAN MCANLY: The next question is on CPR 30, Public Form No. 8. Can a different labor cost adjustment factor be used on each product line within one unit reporting under Method No. 3?

MR. HEADLEE: We can develop a different labor content for each of the products if we file separately for each product.

CHAIRMAN MCANLY: Then you are putting labor on a specifications basis, the same as material?

MR. HEADLEE: You compute your price roll forward for labor on a separate basis from your material, of course.

CHAIRMAN MCANLY: That is right, but I think what this question is getting at is that normally, under either CPR 30 or CPR 22, you determine an over-all labor content to sales and apply that across the board. Now, if you use Method No. 3 where you take a representative item and figure a cost factor for the material price change and for the content to sales, cannot you also do that on the labor, on a specification?

MR. HEADLEE: Yes.

CHAIRMAN MCANLY: Regulations do not provide for that, but I understand they will accept that.

MR. HEADLEE: That is right.

CHAIRMAN MCANLY: Here is another one for you. Can warehouse plus steel cost be used to determine the material cost adjustment factor when base period steel was purchased from mill? In other words, you are now getting short shipments from warehouse at a higher price. Can that be carried into the adjustment factor?

MR. HEADLEE: No. Any premium price paid for steel beyond that

paid in the base period is not allowed as an increase in the material price.

CHAIRMAN McANLY: Is not that governed a bit as to whether you are forced by restriction or CMP controlling your quantities?

MR. HEADLEE: It might be influenced later by that fact, but there is no provision to date in the price regulations to permit that increase to be included.

CHAIRMAN McANLY: Here is the third. If computed ceiling is higher than GCPR prices, do all of the product numbers within a product line need to be listed in Section No. 8, or only the best selling commodity?

MR. HEADLEE: There has been a supplemental regulation on that point which requires you to list all of them. I think that if you have a catalog which you can file, that will serve the purpose.

ROBERT H. MEYSTRE (*Controller, Gorham Manufacturing Co., Providence, R. I.*): Mr. Blough, the Government has placed an order with us for merchandise regularly made for consumer use in the home. It is a stock item. Is the sale to the Government renegotiable?

MR. BLOUGH: Yes.

CHAIRMAN McANLY: That was a short one.

MR. BLOUGH: And there is no provision under the new Act for the exemption of standard commercial articles either.

G. G. FULLERTON (*Professor of Accounting, University of Colorado, Boulder, Colo.*): May I direct a question to Mr. Headlee, arising out of his address this morning? If I understood him correctly, there is some reason to advocate the exclusion of fixed costs from inventories. I wish he would comment on that. In addition, I would like to ask another question. How does this theory tie in with costing Government contracts?

MR. HEADLEE: I will answer the last question first. The direct cost method should have no effect whatsoever on the cost of any contract, government or otherwise, except possibly as to the timing of the placing of cost against any given contract.

I did say that, in my opinion, we should not include fixed factory overheads in inventory and there are a number of reasons why I think that way.

Inventories have been increasing at quite a rapid rate. Let us assume that they will decrease at the same rate at some future time. Certainly in this present period those costs which are a function of time

are being accumulated in our inventories. Therefore, in this period we are not charging a normal amount of fixed cost to our operations, whereas, in the later period when our inventories are going down, we will be charging to operations normal fixed costs plus the fixed costs in inventories liquidated

A better operating statement results if we will exclude fixed factory expenses from inventories. Also we have very much better information as to break-even points if we disassociate those costs which are a function of time from those costs which are a function of production.

CHAIRMAN McANLY: I would like to ask you a question. In reference to excluding fixed costs, if you are consistent in what you do, it is not going to make too much difference in the profits from year to year, providing you put normal fixed costs in. However, suppose, following your theory, you decide to change from the basis where you previously carried normal provision for fixed expense in the inventory, do you think you could get the charge related to the first year you do it, as a tax deduction?

MR. HEADLEE: No, I do not think you can, but I disagree with your first statement. You only have to review the years 1937 and 1938 to realize that we made considerably more profit in industry than we reported in the year 1938 and considerably less than we reported in the year 1937.

I think that the same thing has happened in a number of years since that time, in which collectively we increased our inventories in one year and liquidated them in the following year. If it happens naturally, it can be made to happen.

CHAIRMAN McANLY: How do you reconcile your thinking on the exclusion of fixed costs with the "general acceptance" statement that all costs incidental to manufacturing and manufacturing companies are properly capitalized in inventory? In a commercial or mercantile business when you acquire merchandise you do not capitalize certain buying costs, but you do not do that in industry either. I just want to bring out that there is an inconsistency.

MR. HEADLEE: I do not think there is an inconsistency. The inconsistency is in the procedure more commonly advanced although not so commonly practiced. In a retail enterprise it is true that the costs of the goods are charged to the inventories, but there are no fixed expenses of any kind charged to the inventories. No expenses which are a function of time are charged to the inventory in a retail business.

It is only when we wrote the accounting procedure for the manufacturing business that we departed from the practice I described.

Chairman McAnly: Let me ask you this one question, then. How do you divide? Where do you draw the line? Maintenance of equipment, for example, is a variable or at least a cash outlay expense which is provided for in overhead. That is capitalized in inventory. Now, the depreciation on that equipment, which is in a sense the same type of an expense, you would exclude. What about fixed expenses as we think of them, the fixed element in all indirect labor and so on? Are you talking about all fixed expense? What do you include?

Mr. Headlee: I include all fixed factory expense, and I realize it is not an easy matter to segregate factory expenses between fixed and those that vary with production. However, any of you who have installed standard costs have made that segregation, and undoubtedly the segregation you made is reasonably reliable.

Mr. Howell: I believe that it may clarify this thing if we talk about the principle involved rather than some specific application. The principle involved in presenting, let us say, what purports to be a proper income statement, is that we shall show, or try to show, the true income for the year. Now, Mr. McAnly stated it did not make much difference, provided you were consistent. The difficulty with that is that the consistency which is involved here is the consistency of your inventory investment policy. Wherever production, inventory and sales are absolutely concurrent, so that there is no increase in the period in inventory, or decrease, then the effect of including or not including fixed charges in the inventory evaluation is nil.

The position which I take and which you remember we debated at great length at the 1940 Annual Conference is that the income statement is not a fair disclosure of the profits and losses of a concern unless it shows the effect of by-passing certain costs which, under the cost accounting concept relating to costs which are a function of production, we placed in the inventory (when these costs related to the time function), *without disclosing* the effect of by-passing them into the inventory and treating them as an asset and clearing them out as cost of sales. Now, a company has a conscious or unconscious inventory investment policy when it decides it will manufacture in excess of the current rate of sales or will deplete stock. Whenever that occurs and we follow our ordinary cost accounting concepts, then the income statement, in my opinion, does not present a correct situation,

and I think the answer rather is not to debate whether it should or should not be done, but to see that it is appropriately disclosed.

WILLIAM BLACKIE (*Vice-President, Caterpillar Tractor Company, Peoria, Ill.*): Those of us who were here seven, eight, nine years ago will find something very reminiscent about today's meeting, and it is somewhat disturbing that this should be so. Six years ago, we ended a war Here we are back again in the same old war of cost accounting; the same old rat race.

As I try to analyze our trouble, it seems to lie in the fact that businessmen believe all their expenditures, being necessary for the conduct of business, should be recovered somewhere, sometime in prices; whereas when the Government is the customer, it believes that certain expenditures may not necessarily be attachable to the unit prices of the particular products it buys. The problem does not arise in commercial practice because the customer is concerned only with price; whereas the Government seems completely unable to get away from a cost-plus philosophy and is, therefore, too often more concerned about the seller's costs and costing. In partial justification for this, it has to be recognized that under emergency conditions the free interplay of normal competitive forces is frequently disturbed, and that when high volume government procurement is combined with high national taxation, there are always those who elect to increase their expenditures for deductible costs. Where they do so, it surely cannot be reasonably expected that such increases should be reflected in defense contract prices. Grounds for difference of opinion are, therefore, inherent in the abnormalities of the situation.

What to do about it?

Were the Government to own and operate business, the buyer and seller would, of course, be one party, and there would presumably be no room for differences—just one happy party reveling in harmony at the taxpayers' expense. But as long as industry is to operate under private ownership, buyer and seller constitute two parties, and the effective consummation of a business transaction calls for agreement between them. That is the fundamental function and purpose of a contract—to achieve agreement, not to provide a ring in which the parties can battle out disagreement. It seems to me, therefore, that we might explore avenues in this direction.

In cost reimbursement type contracts, the rules are laid down in advance. ASPR, Section XV, tells pretty much what code the

fight is to be under, and the parties are presumed to go in with their guard up and their eyes open. The contractor may not like it, but there is a certain amount of certainty about his displeasure; whereas when he goes into a so-called fixed price contract, he has an uncertain amount of uncertainty if it has a price redetermination article As I sense the feeling of this meeting and of some others I have recently attended, our concern and trouble today lie more in not knowing where we stand than in knowing what costs will or might be disallowed.

This does not mean that we should have for redeterminable price contracts a set of restrictive limitations embodied in procurement regulations written unilaterally by one of the parties. It is in fact my opinion that in view of the tremendous variety of possible and likely conditions to be met where price revision articles are properly applicable, it would be completely impracticable to hold out any hopes that definitive regulations could be so devised as to provide a solution satisfactory to both parties. On the other hand, it does seem perfectly possible that contractual agreement could be achieved, first, upon whatever cost and price elements may be definitely ascertainable in advance, and, second, upon a predetermined basis for subsequent determination of whatever elements may not be ascertainable in advance. This would call for the use of practical means which, upon the occurrence of certain events, would produce definitive results. And it is here that I believe cost accountants might offer their best contribution to defense contracting by participating in the development of workable bases to fit the particular conditions peculiar to individual contracts.

I believe that business people are ready and willing to negotiate contracts along the lines I have indicated, but the difficulties appear to lie more on the side of the other party. There we have a contracting officer doing his best as part of a vast impersonal system to represent his government effectively, to act in good faith with the other party, and yet do so without unduly ignoring the frequently inhibiting influence of an independent third party, a government auditing division having no direct responsibility in the negotiation or performance of the contract.

How do you think a solution to this problem might best be approached so that fifteen years hence we will not be having another meeting where we will be discussing the same things all over again?

Mr. Howell: Mr. Blackie is living up to his long reputation of getting to the heart of things in a hurry. I will answer the same way,

and I will not discuss the arguments for and against the conclusions I shall state.

First of all, it is a terrific pity that we in the cost accounting field have not helped lead industry to a realization that this thing can be settled. The second thing is, we are making a great mistake in assuming all sorts of responsibility in cost accounting and auditing that we have no right to accept. I think we are being made or offering ourselves as a scapegoat.

Now, the way to meet this situation is this: The Government is going to be your main contractor for a long time, and for many repetitive transactions. If you had a customer of that type, the last thing you would do would be to go and negotiate another complete contract with him every time he gave you an order, so the first sensible thing to do is negotiate an over-all contract with the Government in which the primary contractual relations are agreed at the top level and set out.

It is ridiculous to argue every time with a new contracting officer, who has just come in from training, on the patent clause, on the disputes clause, on the change clause. Those are all legal matters which should be settled once and for all. Thereafter you would issue work orders showing specifications, quantities, deliveries, and the negotiating would be confined to the matter of negotiating price. When it comes to fixed price, you must realize that the Government wants a fixed price, if it can only get it, but there are, in many cases, too many contingencies, which create an unfair risk, to place upon the contractor. So price determination clauses are worked out.

Now, in the minds of the people who develop those clauses—and I can speak very personally on this—it was never thought that they would be operated by the audit of historic cost accounting records. It was thought that the contractor would come in with his estimate of material, the bill of material, the labor, his production flow chart, and the overhead

He would negotiate with the contracting officer. The contracting officer might very well say, "Why, how do you figure ten per cent wastage on this material?" The contractor answers, "I have had no experience. I think it should be ten." The officer says, "We do not believe you will have that."

All right, the price redetermination clause requires a *revised estimate,* not a cost accounting of what happened, but a revised estimate *after the first production run* and the engineers could say, "Well, you

are right. We are only losing two per cent," or "You are wrong. We are losing twenty per cent." Similarly, there would be the labor operations. The contractor might show the labor operations and the government would say, "We do not believe you need this operation." The contractor would say, "Our engineers tell us we do."

Now, to make a long story short, the price redetermination should be based upon a *revised engineering estimate* which could be presented within *two or three days after the production run* or the determined period is established. To send in masses of auditors to audit the historic cost record of the whole contract (an extremely difficult and expensive task that inevitably takes a long time to complete) is wrong in principle because these *experienced costs* do not show what the rest of the contract may cost. The very item of cost reduction which should be reflected in the remainder of the contract might have occurred the day after the audit point was reached. Past costs have no bearing—what is needed is the *"experience"* gained by a run reflected in a revised *estimate.*

Now, the sooner we get away from trying to operate price redetermination clauses on a cost accounting basis, the sooner the cost accountants stand up and say, "The record of that cost has got nothing to do with what the remainder is going to cost," the nearer we will be to having a definitive statement. A solution to a procedure which wastefully deploys manpower on both sides, delays production and settlement and results, in fact, in a disguised form of cost-plus contract. I would not accept a price redetermination clause which did not state the specific contingencies and uncertainties upon the happening of which I would want to have the price revised.

We have a situation where we are letting contracts and the costs are supposed to be figured after a run, say, of 40 per cent. Now, in the first place, that is 40 per cent of the finished goods so it may be nearly 100 per cent of the parts. By the time you get your figures, the contract may be nearly 60 per cent or 90 per cent finished. By the time the audit comes through, it is nearly 100 per cent finished. We then negotiate a contract price when the contract is finished and it is nothing more than a cost-plus contract, which is illegal.

I think we should have some deep thinking on this matter on the part of cost accountants. They should refuse to be forced into positions where they purport to be presenting information to meet this situation when they cannot do it. It is an engineering function.

Also, your cost accounting records do not enable you to so control the elements going into prices as to avoid excessive profit, for a very simple reason. You accumulate costs on your books. You relieve those costs ordinarily when you deliver some goods and charge cost of sales and pick up your billing. By that time, in all the overhead rates you use for estimating, your selling overhead and administrative overhead, you have employed rates ordinarily based upon prior criteria, prior amounts of volume, prior amounts of money. It is with great surprise you suddenly wake up and discover thousands and thousands of dollars of credit variances by way of over-absorption for estimating.

I think the fault is in not keeping (1.) a constant budget of the expenses; (2.) the minute the contract is awarded, taking out all the overheads which are potentially recovered and accumulating them, so that, as you keep running along, you can see when you have recovered all of the selling expense and the general administrative expense and will know that, if you keep on recovering it, it will be profit to be renegotiated or a source of argument.

Those supplementary records must be kept and, to my mind, while all these things we have discussed have been very interesting today, they have been concerned with what the accountant can do within the ordinary pattern of cost accounting. I feel the bulk of our trouble with the uncertainty in pricing contracts and the fact that we come up with renegotiable profits and arguments on redetermination of price, is because we have failed to realize that the bulk of these things cannot be done by ordinary cost accounting procedures. I say that the cost accountant with his training, his knowledge of the limitations of his principles, should be the man who can organize the work of the company so that they can meet this situation.

It is vitally important to know the requirements of the Government, and I think a great deal has been done here today to have you understand them, just as you do the requirements of your best customer, and you should try to adapt yourself to those requirements. There is no way of "beating" them. I agree completely with what Mr. Blackie says, that the present contract is not in legal essence a true contract because it lacks mutuality of agreement. It is practically a paper which says, "We agree that you can start, and we will do all our arguing later and define the terms later." That is not a contract.

Chairman McAnly: I am afraid that time has run out. I think we all owe this panel a rising vote of thanks.

SESSION III

COST ANALYSIS TO AID MANAGEMENT

TUESDAY MORNING, JUNE 26, 1951

I WAYNE KELLER, Assistant Controller, Armstrong Cork Co, Lancaster, Pa, *Chairman*

John Pugsley is Executive Vice President, Tennessee Coal, Iron and Railroad Company, a United States Steel Corporation subsidiary He began his business career with the Armstrong Cork Company and served in various positions until 1929 when he joined the United States Steel Corporation organization in the employ of the Oil Well Supply Company. He became Assistant Comptroller of Oil Well in 1932. In 1938 Mr. Pugsley was transferred to the National Tube Company as Assistant Comptroller. Subsequently he was promoted to Comptroller.

Mr. Pugsley came to Birmingham in 1942 to take over the duties of Comptroller for his present company. In 1951, he was elected to the newly-created position of Executive Vice President, in which he serves as highest administrative assistant to the President.

Long active in N. A. C. A. Mr. Pugsley has served as President of the Birmingham Chapter and National Director. He is now a National Vice President of N. A. C. A. Also active in the Controllers Institute of America, he has served as National Vice President and is past President of its Birmingham Control.

Charles H. Gleason is Assistant to the Executive Vice President, Sylvania Electric Products Inc, New York, N. Y. He has been with his company since 1943 and, prior to being named to his present position, he was Manager of Cost Control and Cost Analysis Previously he was Operating Vice President of Larkin Co., Buffalo, N. Y. and, still earlier, he was engaged in industrial and management engineering

A member of N. A. C. A. Committee on Research, Mr. Gleason is known as an author and speaker in his fields of interest.

VARIANCE ANALYSIS FOR REDUCTION AND CONTROL OF MANUFACTURING COSTS

JOHN PUGSLEY

Executive Vice President,
Tennessee Coal, Iron & Railroad Co.,
Birmingham, Ala.

THE variance analysis program in our company is a planned, intensive effort of the operating and accounting departments to reduce cost through the elimination of unfavorable variances from standard resulting from operating performance. The standard cost system in our company has provided for a daily, weekly and monthly study of cost variances by causes, which has long been used as a tool for cost reduction. However, we feel that the present program of variance analysis is a new approach to more effective analyses and improved accounting service to management.

The fundamentals and principles of the program are not theoretical but have been proven practical and highly successful after more than two years of actual application in our company. While the application of the program has been to a standard cost system in a steel manufacturing concern, the basic plan can be applied to any type of business, large or small. Likewise, an actual cost system can lend itself to the adoption of the main idea comprehended in the program.

Company Background

In order to provide a clearer understanding of the development of the program and its operation, it would be helpful to furnish some background concerning our company. The Tennessee Coal, Iron and Railroad Company is a completely integrated steel company, including all operations from the mining of raw materials to the sale of finished products. It is one of the largest industrial establishments in the South.

The manufacturing operation comprises six manufacturing plants which produce such different major items as sheet-metal roofing and siding, sheets for stove and refrigerator bodies, nails, wire, structural shapes and plates, tin plate for can manufacture, rails, bars, various special shapes, coal chemicals, etc. The plants include nine blast fur-

naces with a daily capacity of about 7,150 tons. In all, there are 21 open hearth furnaces and three Bessemer converters, with an annual ingot capacity of 2,920,000 tons.

The company has nine ore mines, five coal mines, one limestone mine and one dolomite quarry. The mines and quarries, from which come the raw materials used in steel making, are located within a radius of eight miles of the major manufacturing operations.

With approximately 30,000 employees, the Tennessee Coal, Iron and Railroad Company has at present annual employment costs of approximately one hundred and thirteen million dollars. Its trade territory covers 11 southeastern states and company warehouses are maintained at Memphis, Tennessee, and Houston, Texas

The cost accounting and other related functions for the various operations are largely performed in offices located at the various works. A works auditor is assigned to each of two groups of mines and to each of six manufacturing locations to directly supervise the works accounting organization. At all of the larger operations the works accounting activities are decentralized to mill offices located in the major producing departments. Each decentralized office is supervised by a "head accounting clerk." The organization is designed to expedite the developing and furnishing of current cost information closest to the scene of operations.

I have recited these statistics, not to impress you with our bigness but rather to convey to you that our company comprises many, many operations which can be looked upon as individual businesses in themselves and are, therefore, comparable in scope, for the purpose of this paper, with many smaller businesses.

Installation of a standard cost system began in our company during 1938 and at the end of 1941 all operations were covered and measured by standard costs Subsequent to the final installation, continued improvements have been made in the quality of standards, methods of application, presentation of results and analytical procedure. The system now embraces standard specification costs, standard budgets for current changing conditions, and current cost control information developed daily for individual operating units. The standard cost system has also provided for more comprehensive and expeditious coverage of such accounting activities as profit forecasts and cost and sales analyses.

The complexity of our operations and the constant improvements

in production methods and facilities require constant vigilance on the part of the accounting organization to keep the cost system abreast of operating advances. Likewise, the continual endeavors by management towards cost reduction must be accompanied by unceasing review and evaluation of accounting analytical procedure to assure results commensurate with efforts. The variance analysis program had its inception during a review of the latter phase of accounting functions during which improved means for assistance in cost reduction were explored.

The foregoing background has been provided to assist in reviewing the origin and development of the program, describing how it functions and offering a few case histories of actual results. The main objective is to provide a knowledge of the basic principles which have made the program successful in the reduction of cost.

Origin of the Variance Analysis Program

While developing objectives for the year 1949 considerable thought and discussion were directed towards possible new sources for cost improvement. The lack of what might conceivably be a new and original cost reduction activity logically centered our thoughts on the problem of eliminating unfavorable cost variances. The proper analysis of cost variances provides the accountant with the primary and most effective tool in assisting management to improve operating performance. Preliminary consideration of the improvement of this basic analytical function called for an examination of the cost variances for an extended period of time to determine the magnitude of amounts subject to cost reduction.

A review of company cost variances in total indicated no deviation from trend of sufficient proportion to cause concern. However, it was realized that total company variances, summarized by works and major causes, reflected the net effect of both favorable and unfavorable amounts. A preliminary tabulation of the operating performance variances by major departments, separated between favorable and unfavorable amounts, indicated a large annual unfavorable amount which had been substantially offset by the total of the favorable amounts. A subsequent tabulation of favorable and unfavorable operating performance variances accumulated by cause and by each individual responsibility brought out the significance of the unfavorable total. This unfavorable amount could be given added prominence by a

separate tabulation of losses created by individual factors within a major variance classification in each responsibility. As an example, the variance created by the use of operating supplies in a responsibility is the net effect of both under and over standard use of numerous items.

The fundamental thought which launched the new program was based on the philosophy that standards in effect were attainable since all standards in use had been either engineered or were based on historical data, indicating in the first case that standards are reasonably attainable and in the second case that standards had previously been met. On this basis, the direction of special effort towards the elimination of unfavorable cost variances seemed to provide a most fertile field for the cost reduction. While the primary efforts would be concentrated on the elimination of unfavorable variances, it was realized that any extensive progress in that direction would result in an over-statement of standard product costs, in relation to actual costs, unless standards for excessive favorable items were corrected. For this reason the program was designed to cover a thorough and comprehensive analysis of all cost variance items and consequently became known as the variance analysis program.

Reasoning Which Provided Basis for New Program

Thus far, the name of the program alone has not suggested anything new, as standard cost systems are primarily designed to enable the evaluation and determination of variances by card of accounts or by causes. Before proceeding with the functions of the new program it would be well to state the reasoning which preceded the plans and actual organization for the new approach to variance analyses.

Shortly after the installation of the standard cost system, cost controls had been established at each works to provide management with current information regarding variances by causes. These controls were designed so that the lowest level of supervisors was given the factors contributing to cost variances currently. These factors, together with analyses, are progressively summarized for each of the higher levels of management. A cost analyst was provided at each works to screen the most important variance causes and to provide management with special analyses for use in taking corrective action. This seemed to be the ultimate in variance control from an accounting standpoint. However, breaking down the variances separately be-

tween favorable and unfavorable disclosed many recurring unfavorable amounts on a daily and monthly basis in which little, if any, improvement had been made.

The ever increasing demands made upon the operating supervisor's time as a result of operating, industrial relations and other problems, focused attention on the need for improved accounting analytical activity. The necessity for complete analyses and specific recommendations to correct an unfavorable condition was apparent in order to conserve the operator's time and to make it possible for him to take corrective action.

It has also been disclosed through a complete breakdown of variances, already mentioned, that there were additional unfavorable amounts which possibly had not come to the attention of management because they had been offset by favorable amounts in the same variance account, making it very difficult for management to take corrective action. These factors led into a probing of how the variance control system could be improved so that it would become more helpful to management in the control of costs.

Former Variance Control System

An analysis of the former variance control system disclosed the following principal factors which could be improved:

1. Unfavorable variances were not given sufficient prominence when offset by favorable amounts within a classification of cause, or within a department or works summary.
2. Analyses of recurring variances in many cases were not based on a sufficiently long period of time. Cost variances result from a multitude of causes, many of which are quite complex. These causes fluctuate from day to day, month to month, and year to year. Some of the causes are nonrecurring, while others form a pattern which can lend itself to corrective action. The short-term evaluation of items causing variances does not emphasize the significance of small items unless projected and evaluated for an extended period.
3. Analyses for upper levels of management were necessarily general in scope and, for this reason, did not provide this level with sufficient detailed knowledge needed to influence corrective action by the lower supervisory group.

4. The amount of detailed information provided on the daily cost controls on some items was found to be insufficient The detail exhibited on these controls shortly after installation was curtailed somewhat as it was the consensus at the time that the information should be on a broader basis. We are now convinced that the original thinking was on the right track with respect to detail but the type of information was not the kind required for true control. Special studies are necessary to determine the significant factors which are important enough to follow and exhibit daily. The importance of these factors may change from time to time in line with corrective action taken and changed operating conditions, and require a continual follow-up to keep the daily detail at a minimum and at the same time abreast of current significant cost conditions.

With these findings in mind, a decision was made to improve the analytical service by establishing a new program to provide for a detailed, long-term analysis of operating performance variances and to present the findings clearly, concisely and with conviction.

The thinking and plans for this program were first discussed with management. The idea was accorded wholehearted support. This discussion and approval of management resulted in the decision to develop the program at the works level and to confine the activity to one department at each works until the analyses for that department had been completed. Analysis of one variance item at a time within a department would involve a complete break-down of standards and all elements of cost for a period of time necessary to give a proper perspective. The results and findings would be reviewed with departmental supervisors prior to presentation to the works superintendent with definite recommendations for corrective action.

Acceptance of Program by Works Operating Heads

In starting the program at a particular works, the works auditor reviewed a breakdown of favorable and unfavorable variances for that works with the operating head. In presenting these data, the works auditor suggested a planned program of intensive analysis along the lines previously outlined. In each case, the suggestion and plan was favorably received. The works head, in turn, informed his supervisory group of the objectives of the program, assuring full coopera-

tion with the accounting department. At one of the large works the superintendent assigned an industrial engineer to spend his full time with the accounting department in the development work, while at other works the assistance of engineers was offered as required. In other words, the program was sold by the works auditor to the works operating head and thus it became a joint effort of management at the works level.

Organizational Setup of Variance Analysis Program

The program was first launched in the blooming and billet mill department at one of our works and, as experience was gained in this department, the activity was expanded to include all works and mines.

The variance analysis program was established under the direct administration of the works auditor at each location. It was realized at the outset that the success of analytical work of this type would depend to a large degree on the type of personnel assigned to the job. For this reason, the organization at the larger works was supplemented by analysts who had had previous extensive experience in analysis and presentation of projects to management. To further assure proper presentation and analysis, a special supervisor in the general office was assigned to the program. His responsibility is to devote a substantial part of his time to reviewing written reports prior to release, and recommending changes when necessary. In addition, he was assigned the responsibility of checking progress and final results, as well as to act as an intermediary for the interchange of ideas and pertinent findings between works. This part of the plan was designed to maintain the momentum of the program and at the same time to assure uniformity in the quality of the final presentations.

At this point it should be stressed that the general office has not found it necessary to contact works operating management on any phase of the activity, which has kept the program purely on a works basis. This emphasizes a fact that must be present if a program of this kind is to succeed. The works operating management, which is responsible for effecting the desired cost reductions, must wholeheartedly adopt the program as its own and the accountant from this point on assumes his function of assistance in furnishing such information and analyses as will aid in securing corrective action.

A great deal of study was given to the kind of analytical organization which would be needed to carry out this program. The first

thought centered on the idea of assigning the analytical work to the head accounting clerk in each decentralized mill office. This idea was discarded after a survey disclosed that this plan would require many additional employees in order to relieve the head accounting clerks of sufficient assignments to permit their full participation in the program. There were other disadvantages, such as the interference with supervisory functions in regard to production recording, inventories, timekeeping and payroll, etc. The thinking was that analytical work is most effective when it is unhampered by functions which must be performed on a time schedule basis. It was also foreseen that the findings in one department would affect practices in other departments, which would be beyond the scope of the head accounting clerk's ability to handle properly. The final conclusion was that the program could be handled best by a central analytical organization at each works under the direct supervision of the works auditor.

The organization problem has been worked out by establishing a central analytical group at each of the larger manufacturing works. This organization includes a works analytical supervisor to direct all analytical functions, with a section under his supervision to specifically carry out the variance analysis program. The variance analysis sections generally include a variance control analyst, a variance analyst and one or more product cost analysts.

Outline of Basic Analytical Procedure

Generally, the first step in a department selected for analysis is to compile loss and gain variances separately by responsibility, by works cost and expense code, and by variance causes for a period of approximately a year. This is done not only to establish a pattern of fluctuations but also to provide the key as to which items will receive priority for intensive study. After the selection of an item, all elements of cost are broken down into the finest detail. In other words, the records and practices of a mill are literally "taken apart" and studied with respect to the validity of standards, application of standards, past cost incurrence and the basis for present actual incurrence.

In many cases variances are traced back for a period of years to determine if standards have ever been attained. This is particularly true of those items for which standards have been established on historical experience. In the case of engineered standards which have never been met, there is usually a period when the variance was very

low. When these periods of maximum performance have been established, the trend is traced to the present-day results to establish reasons for unfavorable deviations, which may be due to an accumulation of causes. All of these comparisons with former results require careful consideration of changed conditions, revised standards during the periods surveyed and the effect of price and wage rate changes on the magnitude of variances in different periods. These conditions must be reconciled to the current performance to assure a bona fide comparison of present and past differences. It is interesting to know that all of the information used in the breakdown of conditions and causes has been found to have been previously recorded and has been available for analysis from various production or operating reports. As yet, no new recordings of basic data have been necessary. Accumulation of figures already available has satisfied the requirement.

The detailed analysis may differ for items within a department, depending on the complexity of the situation. This may best be brought out by a brief review of a few case histories covering projects already completed at various works and the results obtained.

Case Histories of Cost Reduction Through Variance Analysis

Many specific examples of variance analysis projects can be offered. There are those by which cost reduction was effected solely through reduction of losses, those whereby gains were obtained by improving a condition which was already favorable, projects which effected no cost reduction but did provide a more equitable statement of standard product cost, and those projects which influenced substantial savings in locations other than those reported upon. The case histories here given are necessarily briefly presented. This should not be permitted to obscure the fact that results can be relatively large, cost-reduction-wise. Each case could easily require the time of a technical session for adequate coverage in all of its detail.

I would also caution that conclusions as to quality of management should not be drawn, as this is in no way involved. The only point sought to be made is that accountants, through the accounting analytical activity, can immeasurably assist operating management by placing before it the specific information that permits action, which information otherwise would be extremely difficult to develop.

Blooming Mills—Use of Operating Supplies

The study of operating supplies requisitioned by the blooming mills provides an excellent example of the methods followed in conducting servicing and measuring a variance analysis project. A few words of explanation as to the functions of the blooming mill will prove helpful in understanding this and another case history. The blooming mills are primary rolling mills used to reduce large blocks of steel, called ingots, which have been poured into molds at the open hearth furnaces. The ingots range up to 13 tons in weight with a cross-sectional size up to 24 x 4 inches. Ingots are rolled into blooms, billets and slabs for further processing.

The study of usage of supplies in this department is one of the least complicated projects and is one in which recorded savings have come from improvement of conditions which were already reflecting favorable variances. Further, this project has influenced cost reductions of far greater magnitude in other locations.

In the beginning, it was determined that the blooming and billet mills operating supplies, had incurred loss variances over a twelve-month period, of only $4,000, as compared to favorable variances of $21,000. In light of these results, the possibility of cost reduction did not appear to be great. However, in line with the program of studying both gain and loss variances, the analysis was made. Standards had been established on a basis of usage during the first half of 1947. Actual quantities used for this period were determined by individual items from a study of stores requisitions. These quantities were evaluated at current prices and compared with usage during the latter part of 1948. While it was found that usage in the current period was at a lower level from the standpoint of overall quantity than before, the use of certain items reflected considerable increase, and there were items such as cotton waste, rags, gloves, flashlights, paint brushes, etc., whose disbursements in both periods appeared to be abnormally high.

The results of the analysis were reviewed with mill management and it was decided to set up a control which would present daily issues by items, quantities and the name of the person issuing the requisitions. The control over the use of operating supplies by the blooming mills has resulted in a further reduction below standard allowances at the rate of $10,000 annually.

The analysis of operating supplies used by these mills has led to

favorable reactions in other locations of this works. On an overall works basis, twelve of the so-called "pocket" items, the issues of which had appeared to be abnormally high, were selected for special study. From central storehouse records, annual issues were determined and evaluated as follows: Cotton waste and rags, $50,000; three types of gloves, $26,000; electrical tape, $16,000; flashlights and batteries, $7,000; paint brushes, $6,000. All these, together with expenditures of $6,000 for padlocks, carpenter rules and pipe wrenches, reached the very large total of $111,000 during one year.

This information was brought to the attention of the works management and through its efforts the use of these twelve items has been curtailed to the extent of $36,000 annually. Special controls have been instituted to aid the operators in their efforts.

Blooming Mill Yields

The most substantial cost reduction results to date have been achieved through the improvement of yield of good product by the blooming mills and open hearths. During the period that the variance analysis program has been used in pointing out and evaluating causes of low yields, there has been a marked improvement in unfavorable yield variance incurred at these locations.

At the start of this project it was ascertained that metal loss and production of scrap by the blooming mills were causing unfavorable yield variances of $202,000 annually. By analyzing the production of these mills on a day-to-day basis and by individual heats of steel, most of the loss was traced to piped steel, irregular pouring practice by the open hearth, discrepancies in weight of heats charged, heavy rolling and mill cobbles. Going still further into the problem, the piped steel was detailed by metallurgical specification and traced to the producing open hearth furnace. Over- and under-pouring of ingot molds was followed back to the furnace and to the pourer responsible. Steps were taken to insure more accurate scale weights of heats charged, heavy rolling was reduced by increasing the frequency of test weighing of the product, and mill cobbles were detailed by product and by rolling crews. Comparison of present-day results of these mills with the selected base period indicates that the desired trend of improvement has been established. Yield variances have been improved at the rate of $185,000 annually.

It should be pointed out that some of the causes of low yields in the

blooming mills were traced back to the open hearth where, prior to the start of the mills projects, yield variances had also been unfavorable to an extent of $500,000 per year. With this situation being true, it would normally be expected that improvement of blooming mills yield by correction of causes contributed by the open hearths would further reduce the yield of the furnaces. However, the reverse has occurred. By close supervision of the various factors involved, open hearth yields have improved at the rate of $342,000 annually.

Taking the two locations as a unit, that is, both the open hearths and the blooming mills, yields have improved at the rate of $527,000 annually. However, even with these gains, there still remains at the two locations unfavorable yield variances of approximately $157,000 which are being made the subject of periodic follow-up studies in order to assist operating management in their efforts to achieve maximum improvement.

At this point it is important to emphasize that the follow-up phase has proven to be a most important part of the program. The initial analysis of all variance items in the blooming mills department has been completed and this phase is also nearing completion in the open hearth department. However, in order to improve the rate of savings in good product yield, it has been necessary to develop follow-up studies of unimproved factors and of new conditions contributing to unfavorable performance. After initial corrective action is taken, certain items contributing to unfavorable performance become isolated or are uncovered by operators' observation. These items require special emphasis on the part of mill management and periodic studies are necessary to keep them in the foreground.

Several follow-up studies of excessive scrap produced in the blooming mills and open hearth departments have been released. As an example, one of these resulted in a standardization of lengths of slabs produced on the blooming mills for production of bars for use at the sheet mill. This involved a study at the sheet mill and enabled the blooming mills to roll larger quantities of one size with a considerable improvement in yield. The principle of follow-up is a vital part of each project.

Coil Breaks—Electrolytic Cleaners

A study of coil breaks on the electrolytic cleaning lines was somewhat different than other analyses. Generally an analysis is confined

to all the causes contributing to a single variance classification. However, in this case one factor affected two variance classifications in not only this operation but also in subsequent processes. An evaluation of the effect of coil breaks on all operations emphasized the need for corrective action.

In order to illustrate the point more clearly, it is necessary to first visualize the manufacturing processes involved. At the electrolytic cleaners steel strip, usually 28 or 29 inches wide and approximately 1/80 of an inch thick, is uncoiled from 12,000 pound coils and processed through the cleaner. The strip is recoiled at the end of the line following the cleaning process and subsequently annealed in coil form. After annealing the coil is again uncoiled and recoiled during a temper rolling process after which the coils are placed on shearing units to be sheared into sheets.

With these processes in mind, it can be realized that a break in the coil occurring on the electrolytic cleaning lines would create unfavorable cost variances in production rate and also in good product yield at all processing units where uncoiling or recoiling is necessary. Briefly, this means that the unfavorable cost effect of coil breaks was concealed in production rate and yield variances for three operating units. Since there were many other factors affecting both production rate and yield variances, the unfavorable influence of coil breaks on a monthly basis at each separate operation did not manifest its significance.

The first step in the analysis of coil breaks was to evaluate the added cost at each operation, based on scrap losses and delay time determined by a series of tests conducted by the operating department in conjunction with variance analysts. The total added cost of coil breaks was estimated at $435,000 annually. A subsequent study disclosed that, on the basis of one break per coil, the per cent of breaks as related to coils processed had increased approximately 200 per cent.

An analysis to determine the causes involved a detailed comparison of the number of breaks by machine, by operator, by types of steel and by strip thickness. The analysis disclosed several important contributing factors which can be summarized as follows:

1. Condition of coil edges and certain surface defects created breaks.
2. Performance of individual operators showed wide variations in the frequency of breaks.
3. Changes in line speeds was a contributing factor.

4. The mechanical and electrical condition of the equipment was an important factor.

With the presentation of this study to mill management, cost controls were supplemented to provide more essential information daily. Measured savings on this project are now at the rate of $241,000 annually. The savings can be attributed to the use by mill management of daily control information and to certain mechanical changes.

Shear Delays

A study of miscellaneous delays on the flying shears in a cold reduction department is illustrative of the benefits to be derived from an analysis of a cause to the point of ultimate detail. Too often the daily multitude of small items causing a variance loss are available for operating management's study but do not become significant until they are evaluated and projected over a long period of time. The shears in this department are machines which are used to cut steel strip into sheets of ordered sizes, usually about 25″ x 30″. The sheets are cut from 12,000 pound coils at a speed of approximately 600 feet per minute. At this high rate of operation, delay time becomes a very significant factor in regard to the total output.

Miscellaneous shear delays in this department were only slightly in excess of standard time allowances in 1944 but had increased each year until 1948 when they totalled $112,000 in excess of budget time allowances. This increase in delay time had been brought to the attention of mill management through daily exhibits of delay time variance broken down into three major categories, as well as through monthly trends and in the form of a monthly delay report exhibiting the total accumulative delay cost in the current year. In addition to this, mill management reviewed and approved all daily reports for each operating turn. A review of this situation indicated that the Accounting Department must go beyond a daily or monthly analysis and develop additional information in the form of special study.

In developing this study at the shears, the delays were first broken down by type of shear and into three major causes; *i.e.*, mechanical, electrical, and crew and all other delays. The next step was to break down the three major delay causes for the latest three-month period into the finest detail recorded. This came to a total of approximately 170 types of delays, each of which was evaluated to show the cost effect in

proportion to the total. The detail disclosed that in the category of "crew and all other" delays on one type of shear, one cause contributed approximately 37 per cent of the delay time. For mechanical and electrical delays, three items contributed over 50 per cent to the delay time in this category.

As a whole, this study disclosed that the standards in effect had at one time been met and that the major delay causes could not be attributed to deterioration of equipment or to a high level of operations precluding major repairs. After works management received this project, assignments were made to the staff to make an operating study of the situation. Subsequently a memorandum was issued to mill supervision covering five specific items to be acted upon to reduce delay time.

As a further step to aid in reducing and controlling miscellaneous shear delays, the daily control statistics have been supplemented with a line graph which plots time lost by crews and foremen. As a result of these actions, unfavorable shear delay variance has been reduced at an annual rate of $57,000.

Use of Lubricants, Tools, and Operating Supplies at One Ore Mine

This project is a typical example of how a study at one location is acted upon at many similar locations with savings in excess of anticipation. Operating tools and supplies are a major expenditure in the mining operation and include such items as track, steel cable, ventilating tubes, etc. These items are requisitioned in advance and stored underground for use in current operations and as mining areas are expanded. Study here was confined to only one of several ore mines as the use of material is approximately the same at each location.

The cost of tools, lubricants and operating supplies per ton of ore mined had increased from an index of 100 in 1945 to 179 in 1948. Variances from standard for the year 1948 were $117,000 unfavorable and reflected a higher rate of unfavorable increase in the first few months of 1949. Weekly and monthly control reports were furnished mine management on a short-term basis. Unfavorable variances were tabulated by commodity classification to isolate the most significant unfavorable items. Quantitative usage of selected commodity classifications was compiled for a four-year period including the period used as a basis for standards. Procedures covering receipts, disbursements

and control of underground stores were reviewed to determine their adequacy.

Twelve commodity classifications were found to be responsible for 84 per cent of the unfavorable cost variances. Analysis of trends of quantitative usage, which showed increases in consumption of 200 per cent to 300 per cent in a few isolated cases, indicated that generally the increases were not due to the effect of changing conditions.

The entire subject of cost control for supplies was reviewed by mine management. As a result of this review, the following changes were made:

1. The number of persons authorized to originate requisitions was reduced.
2. One day each week was designated as "order day" for all supplies except emergency items.
3. All requisitions are now reviewed by an industrial engineer whose duties include constant contact with operations and a knowledge of salvageable or stored materials available for use.
4. Mine management approves requisitions based on investigation and comments of the industrial engineer.
5. Emphasis was placed on a program of recovery and reuse of certain materials.

The corrective action was applied not only to the operation studied but to all other ore mines.

The initial measurement of this project disclosed very favorable results. However, it was expected that the annual rate of savings would decrease sharply after depletion of excess underground reserve stocks. After approximately two years of measurement, this project continues to reflect a high rate of savings amounting to $578,000 annually. A recent study to determine the reasons for this continued high rate of savings disclosed the inauguration of new salvaging practices and other methods designed to conserve the use of tools and supplies. The emphasis placed on the use of tools and supplies as the result of this study is also reflected in the orderliness of working areas, which decreases the loss of small tools.

Measurement and Publication of Results

In order to effectively administer the program, all projects, after receiving the approval of works management, are measured and reported upon monthly. Measurement is obtained by comparing

current results with past performance in what is considered a representative base period, that is, a period generally six months or longer in which the conditions analyzed existed prior to the action taken by operating management. While the measured savings may be influenced by factors other than the variance analysis program, the savings are subject to accounting proof based on regular monthly operating statements exhibiting favorable and unfavorable variances.

It is conceivable that, with the expansion of the program, the measurement of results for an extended period might become burdensome. However, it has been found that, until maximum results are attained, continued measurement is necessary to focus attention on progress. Projects showing the most favorable results can be measured at intervals of approximately three to six months and daily controls can be used during the interim to determine the need for follow-up studies.

In order to keep the program on a works basis, the results of measurement are discussed with works management, after which they are included as a separate section in a monthly letter to the works superintendent summarizing operating results. A copy of this letter is furnished to company executives to keep them up-to-date on the progress made.

Summary of Program Accomplishments

Although the primary objective of the variance program is to achieve cost reduction through an intensive analysis of unfavorable variances, there are other benefits which have been derived:

1. Analysts are acquiring a more thorough knowledge of operations, also college trainees receive excellent training in analysis and presentation of the projects.
2. Works auditors and the accounting department are assuming their full responsibilities in connection with cost reduction and cost controls.
3. Discussion and review of the projects with operating supervisors is providing them with more complete knowledge of their actual costs as related to standards. These men are also utilizing daily cost controls to a larger extent and assist the analysts in determining the cause for adverse reflections.
4. The operators who have had the most experience with this program are requesting more and more information concerning current problems.

5. The detailed analyses disclose errors in cost distributions and application of standards, departure from cost instructions, inequalities and omissions in basic standards. In these cases, action is initiated to correct the condition.

To sum up what this program of intensive variance analysis has assisted in accomplishing to date, a total of 86 projects have been approved and submitted to management from the various producing, mining and service locations of the company. The results of these projects, having been measured for periods ranging from one to 22 months against selected base periods, represent a substantial annual variance improvement.

These very favorable results would seem to warrant extension of the program to all departments of each works simultaneously. However, we prefer to stagger the program over the long-term because the inclusion of more than one department at a works at a time would produce a volume of data too large for the works superintendent to properly assimilate towards the attainment of corrective action.

The variance analysis program has proven a very effective tool to promote closer coordination between operator and accountant. Many of the favorable results of this improved teamwork are not reflected in the actual measured savings of individual projects. Unmeasured savings which result through the more extensive use of accounting information by the operators is evidenced only in our overall cost improvement. As the coverage spreads to more departments, coupled with intensive follow-up, the variance analysis program will become correspondingly larger as a factor of cost reduction and will increase the stature of the accounting department in its participation in the management of our company.

ANALYSIS OF NONMANUFACTURING COSTS FOR MANAGEMENT GUIDANCE

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THE recent issuance by National Headquarters of Research Series No. 19 on "Assignment of Nonmanufacturing Costs for Managerial Decisions" was the culmination of a great deal of hard, conscientious work by the Research Staff under the able direction of Dr. Walter B. McFarland. An extremely healthy sign of the timeliness and value of this report was the interest it aroused among the members of the Research Committee and others who had an opportunity to review the subject matter prior to publication. Because the report has aroused so much interest and discussion, the Conference Committee decided to place the subject on the Annual Conference agenda. I consider it a special privilege to be representing the Research Committee in discussing it.

I shall try to present the subject both from the standpoint of cost accounting practice and from management use of cost and profit reports for intelligent analysis of operations and planning towards greater company profits. In this presentation I have drawn freely from the research report referred to. When a particular sentence or paragraph expresses the thought I wished to convey, I have used it verbatim. There is such a wealth of material in the report that my problem was to limit its use to that which would best express the few major points I wished to cover in the time allotted to me.

Current Company Practices as Shown by the Research Report

Seventy companies were interviewed by the Research Staff to learn what practices they followed in the analysis of nonmanufacturing costs, and the reasons therefor. Because the companies were selected with care and represented both large and small firms, we can accept the findings as a representative cross-section of practice within industrial companies.

Here are some of the major findings and conclusions drawn from the survey:

1. Cost accounting has been developed most extensively for producing cost figures needed in pricing inventories, preparation of periodic financial statements and aiding in the control of manufacturing costs. Methods of ascertaining manufacturing costs and controlling them have been well developed by most companies. However, comparatively few companies possess equally good information about their nonmanufacturing costs.
2. The most widely used method for distributing marketing costs to products, territories or other units, is to average them over the units as a percentage of sales. This practice is followed also in distributing administration and general accounting costs. This kind of costing more often than not obscures the very differences which management needs to know.
3. Very little has been done by company accountants to develop and introduce new presentations of overhead cost breakdown which adequately handle the multiple product operations of their expanding companies.
4. In a number of companies the sales department has taken the initiative in asking for the information it needs on product and territory costs.
5. Most businessmen realize that some products, territories, customers, etc. are more profitable than others. They also know that an undue proportion of small orders, excessive product variety, and too many special services may have an adverse effect on profits. They are, in general, familiar with the factor of fixed costs in operation and recognize that in pricing there can be both advantage and dangers in accepting orders which increase volume and contribute something to covering fixed overhead. Although this general knowledge serves as a rough guide to decisions, they need better tools for measuring the factors involved.
6. Through long usage, management is familiar with and accustomed to the use of overall company net profit figures as presented on profit and loss statements. Consequently, they naturally follow the same thinking in dealing with product lines or segments of the business, and apply the same profit standards, in terms of net profits after allocation of all overhead expenses.

However, there is a growing realization by management, especially in companies with multiple product lines and operating divisions, that this kind of profit analysis may not be giving correct net profit figures by product lines

7. Management needs more accurate information on:
   (a) How profitable is each of the products, sales territories, customers, and other units which comprise the present sales pattern?
   (b) What effect will proposed changes in marketing methods have on costs and profits?

The preparation of this information is recognized as an accounting function. However, the need for the information is not always apparent to the company accounting staff because the accountants are not well enough acquainted with sales management problems. Mostly, cost accounting has been confined to manufacturing costs.

The Need of Today—A Better Information Tool for Management

The Research Staff findings bear out what many of us know, that the growth of multi-product companies as major factors in our industrial economy makes imperative the need for better tools to express profit and cost information by product lines and operating or sales divisions. This concerns the handling of selling and distribution costs, administrative and general accounting expenses, and engineering research and development. It includes both those costs which are related directly to the product lines or divisions and those costs which are necessary for overall company operations but cannot be related directly to any particular product. It is when we move from costs which can be charged directly to product lines or types into that group of costs we call "indirect," because they do not apply fully or directly to a particular product line, that we run up against all of the problems of allocation if we try to show unit net operating profit.

In order to correctly allocate indirect costs, it is necessary to select a basis of allocation which serves as a common denominator. Costs are then divided among the various units in proportions based upon this common denominator. When the base and cost are unrelated, any resulting unit cost calculations are necessarily arbitrary ones. Consequently, the reliability of any unit cost figures containing an allocated portion of indirect cost depends heavily upon the character of the allocations which have been made. Moreover, many costs which

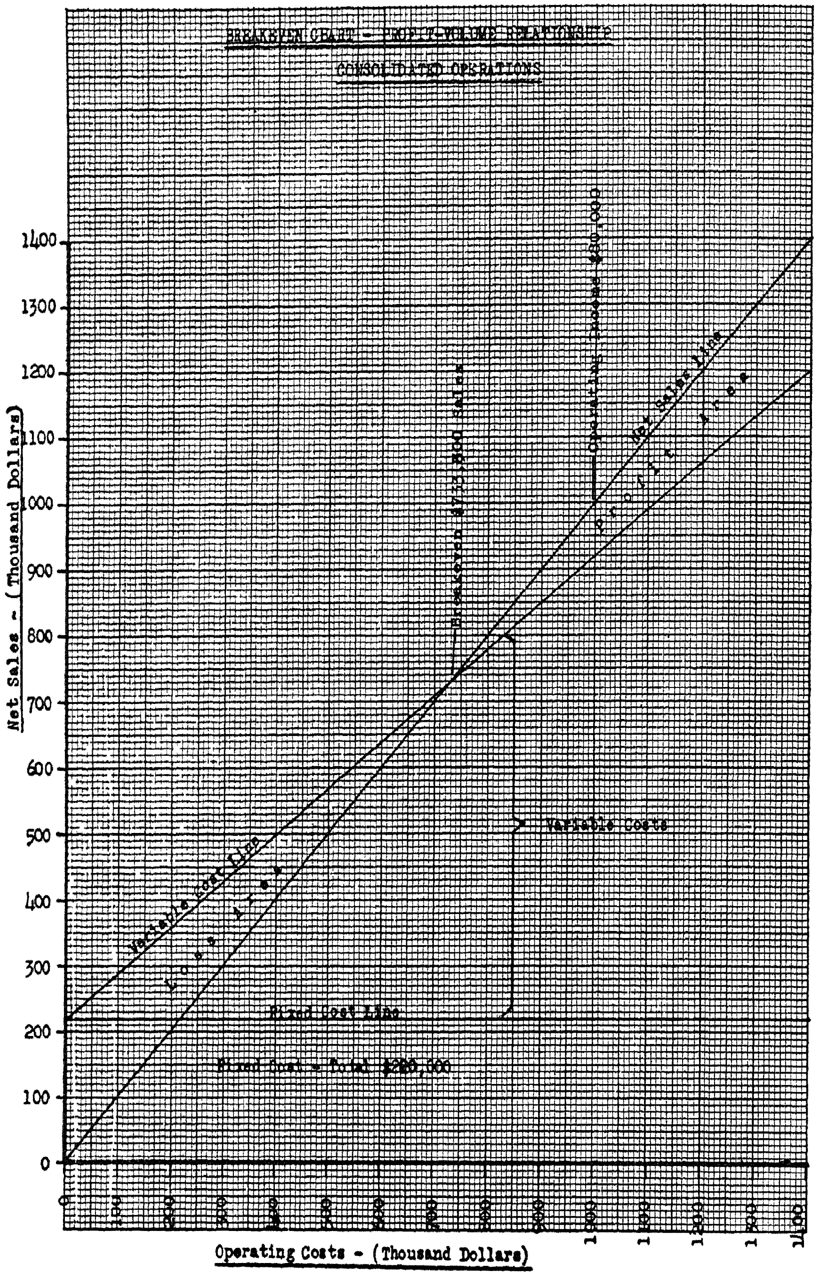
BREAKEVEN CHART - PROFIT-VOLUME RELATIONSHIP
CONSOLIDATED OPERATIONS
Net Sales - (Thousand Dollars)
Operating Costs - (Thousand Dollars)
Net Sales Line
Variable Cost Line
Fixed Cost Line
Variable Costs
Loss Area
Profit Area
0
100
200
300
400
500
600
700
800
900
1000
1100
1200
1300
1400

Exhibit 1

are direct as to major segments, such as product lines or sales divisions, are joint costs when considering individual types or items within the product line. Similarly, costs which are readily separable by product lines may be joint costs as to sales territories.

Those complications are not exceptional. Simplified manufacturing operations in which a reasonably perfect common denominator is available, are becoming more rare each year. Industrial companies are constantly expanding through taking on new lines which help balance operations, help carry general administrative and research engineering costs, and contribute toward net profits.

A Case of a Multi-product Company

As an example of a multi-product company with its problem of allocating overhead costs to divisions and product lines, I will cite my own company, Sylvania Electric Products, Inc. Sylvania has seven major product divisions, also an international sales division and a central research engineering department. The product divisions are:

1. Radio tubes
2. Television picture tubes
3. Radio and television sets and radar equipment
4. Incandescent, fluorescent and photoflash lamps, fluorescent fixtures and starters
5. Special electronic tubes and equipment
6. Small metal, wire and plastic parts and assemblies
7. Tungsten and chemical products

In addition to these product lines, five of the divisions have large shops where we design and build much of our special manufacturing equipment. Also, the divisions each have their own development engineering departments. In all, we have 20 plant locations, plus sales warehouses throughout the country. Our small parts division and tungsten and chemical division sell their products both to other Sylvania divisions and outside customers. In the tungsten plant, each step in manufacture produces a product which can be sold as such and which also is the principal raw material used in the next step of manufacturing. In one division the price range of products is from \$.50 to \$450.00.

This multi-product division setup of Sylvania, with its wide range of products and selling prices, is not uncommon. The trend is normal to American industry. As companies grow, they develop new products,

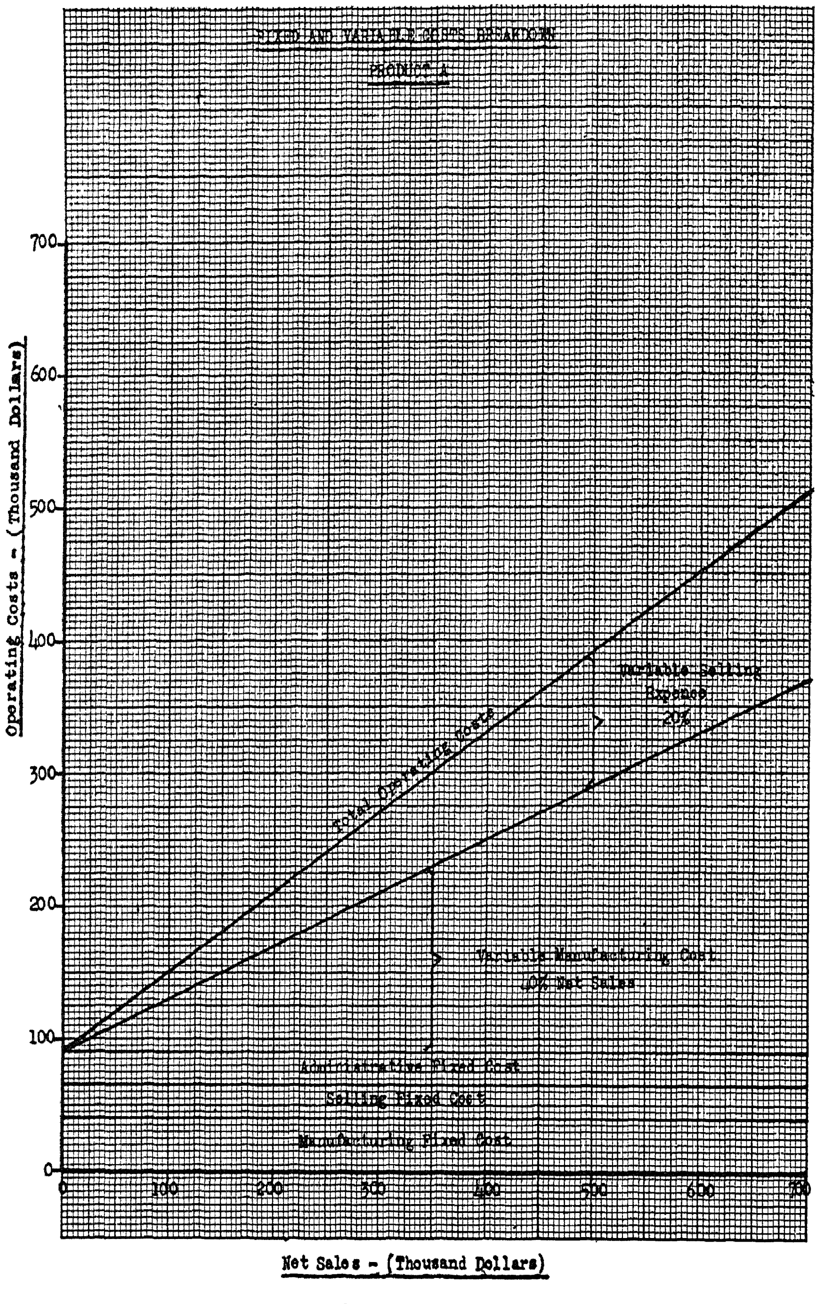
FIXED AND VARIABLE COSTS BREAKDOWN
PRODUCT A
Operating Costs - (Thousand Dollars)
700
600
500
400
300
200
100
0
Total Operating Costs
Variable Selling
Expense
20%
Variable Manufacturing Cost
40% Net Sales
Administrative Fixed Cost
Selling Fixed Cost
Manufacturing Fixed Cost
0
100
200
300
400
500
600
700
Net Sales - (Thousand Dollars)

Exhibit 2

widen their field of operations, and expand their organization structure along divisional lines.

Back in the 1930's before Sylvania started its expansion program, there were only two major products, incandescent lamps and radio tubes. Our then simplified accounting practices served fairly adequately to show costs and profits for these products. With our expanding operations, starting in 1941, we found our accounting inadequate. We were forced to modernize our manufacturing cost accounting. Today we have standard cost accounting and flexible budgets for control of manufacturing costs. I am confident that our present manufacturing cost accounting procedures and controls will measure up to those of any other industrial company.

We are now in the process of revamping our sales accounting and reporting procedures. We recognize that our present method of assigning nonmanufacturing costs to products and territories is not entirely satisfactory. It is probable that the revision of our present procedures will follow along the lines outlined by Dr. McFarland and the Research Staff in the research report.

The Sylvania pattern of required evolution of accounting procedures and statements is not much different from that of many of the companies covered by the Research Staff survey.

The Industrial Management Engineer's Contribution

During the past ten or fifteen years, many of America's leading industrial management engineering firms have been giving a great deal of attention to the problem of supplying corporate managements with cost and profit analysis based upon the contribution margin principle. They have taken the engineer's approach to the problem rather than the accountant's. They were working for an objective and not interested in accounting, except so far as the accountant's records would supply the figures they needed to illustrate their findings. One of their chief tools has been the breakeven chart, which shows graphically and simply the movement of costs and profits with volume, the fixed and variable cost factors and the breakeven point of operations. They dramatize the accountant's figures and profit statements.

Exhibit 1 is a breakeven chart of the consolidated operations of the hypothetical company used in Research Series No. 19. Similar breakeven charts can be prepared for each product. The majority of cor-

Combined Contribution Margin—Full Allocation Operating Statement

	Total	%	*Product A*	%	*Product B*	%	*Product C*	%	*Product D*	%
Net Sales	$1,000,000	100.00	$300,000	100.00	$200,000	100.00	$100,000	100.00	$400,000	100.00
Variable Cost of Sales	580,000	58.00	120,000	40.00	155,000	77.50	45,000	45.00	260,000	65.00
Manufacturing Margin	420,000	42.00	180,000	60.00	45,000	22.50	55,000	55.00	140,000	35.00
Variable Selling Costs	120,000	12.00	60,000	20.00	15,000	7.50	25,000	25.00	20,000	5.00
Contribution Margin	300,000	30.00	120,000	40.00	30,000	15.00	30,000	30.00	120,000	30.00
Fixed Costs										
Manufacturing—Direct	20,000	2.00	20,000	6.66						
" —Allocated	50,000	5.00	20,000	6.67	5,000	2.50	10,000	10.00	15,000	3.75
Selling—Direct	20,000	2.00							20,000	5.00
" —Allocated	50,000	5.00	25,000	8.33	12,500	6.25	12,500	12.50		
Administrative—Allocated	80,000	8.00	25,000	8.34	10,000	5.00	10,000	10.00	35,000	8.75
Total Fixed Cost	220,000	22.00	90,000	30.00	27,500	13.75	32,500	32.50	70,000	17.50
Operating Income	$ 80,000	8.00	$ 30,000	10.00	$ 2,500	1.25	$ (2,500)	(2.50)	$ 50,000	12.50
Breakeven Point Sales	$ 733,300		$225,000		$183,500		$108,300		$233,300	

Note: Allocated fixed costs distributed on management decision basis

$$\text{Breakeven Point Sales} = \frac{\text{Total Fixed Costs}}{\text{Contribution Margin \%}}$$

Exhibit 3

porate management men are not accountants. It is not easy for many of them to analyze the cost statements prepared by their controller's departments and from these statements to fix in their minds the relationship of costs, profits and the breakeven point of operations. Most of these men, however, find it easy to understand the graphic breakeven chart and its visual picture of the profit-volume relationships of the business.

The graphic method is also used by the industrial management engineer for presenting the breakdown of costs between fixed and variable elements, both by classes of costs and by cost centers. Exhibit 2 is such a graphic presentation of the fixed and variable division of costs for Product A from Research Series No. 19. Here again, operating management men get a visual picture of costs, how they should move with changes in volume and why part of the costs are called fixed and others variable costs. The picture breakdown of costs also makes it easy for management to understand the fundamentals of variable or flexible budgets and why such budgetary control of costs is desirable.

This invasion of the accountant's field by the industrial management engineer was quite logical. Management has needed better tools for control and decision making. Few accountants seemingly sensed this need or made much of an effort to develop new tools and new ways of using such tools. Management engineers grasped their opportunity and today are doing an outstanding job of helping corporate management to operate soundly and make profit-building decisions. They have taken the accountant's materials and put them to use.

A Challenge to the Controller and Cost Accountant

This success of the industrial management engineer presents a challenge to the controller and cost accountant. Proof that more and more accountants are now awake to the inadequacy of some of their present tools and a need for better ones, is shown by the content of the monthly publications and special research pamphlets of our own N. A. C. A., the Controllers' Institute and leading universities.

For example, the April 1951 *N. A. C. A. Bulletin* had three articles pertaining to the subject:

More Informative Costs on the Income Statement, E. E. Rennhack.
The Art and the Science of Distribution Costing, John A. Beckett.
Distribution Cost Control—and Beyond, E. W. Kelley.

*

Conventional Operating Statement

	Total	%	*Product A*	%	*Product B*	%	*Product C*	%	*Product D*	%
Net Sales	$1,000,000	100.00	$300,000	100.00	$200,000	100.00	$100,000	100.00	$400,000	100.00
Mfg. Cost of Sales	650,000	65.00	160,000	53.35	160,000	80.00	55,000	55.00	275,000	68.75
Gross Profit	350,000	35.00	140,000	46.65	40,000	20.00	45,000	45.00	125,000	31.25
Selling Expenses	190,000	19.00	57,000	19.00	38,000	19.00	19,000	19.00	76,000	19.00
Administrative Expenses	80,000	8.00	24,000	8.00	16,000	8.00	8,000	8.00	32,000	8.00
Operating Income	$ 80,000	8.00	$ 59,000	19.65	$(14,000)	(7.00)	$ 18,000	18.00	$ 17,000	4.25

Exhibit 4

*

This is encouraging and shows that our controllers and cost accountants are bestirring themselves even though, as the research survey shows, too few company accountants have as yet done anything outstanding in providing adequate tools and information for guidance of management.

Build the Tool—The Basic Materials Are in Your Hands

If the research report findings appear to be an indictment of the accountant's failure to exercise initiative and constructive forward thinking in providing management with tools for profit building, it is not a condition which cannot be corrected in short order. Any controller or cost accountant facing a management need for better accounting information can start immediately to build the tools required. Most of the basic materials, no doubt, are available in present accounting records. Research Series No. 19 will offer guidance.

Stop the Controversy of Full Allocation vs. Contribution Margin

As mentioned earlier, Research Series No. 19 has aroused considerable discussion, principally involving its advocacy of the contribution margin principle in cost analysis and in presenting of profit pictures to management. Contribution margin is the dollar amount of gross sales income remaining after payment of all direct or variable sales deductions, variable manufacturing, selling and administrative costs. It is the percentage of sales income available for payment of all fixed operating costs and for operating profit.

Contribution margin views individual products as related units of the business rather than as separate businesses. Under full allocation where all costs, both variable and fixed, are allocated to products, we are, in effect, setting up each product as a separate business, which is not a fact in actual company operations. By viewing each product as a related unit of the whole business, as is done when using contribution margin, we show the business as it actually exists.

It seems to me that it is time we stopped debating the subject of full allocation vs. contribution margin. Management has, in effect, made the decision. By itself the old tool of full allocation is inadequate for multi-product companies. The tool to replace it is a combination of contribution margin with full allocation. The two are not antagonistic but compatible and, when joined, each being used where it best serves,

Contribution Margin Analysis
Effect of Change in Sales Mix of Products

	Total	%	Product A	%	Product B	%	Product C	%	Product D	%
Net Sales	$1,000,000	100.00	$200,000	100.00	$300,000	100.00	$200,000	100.00	$300,000	100.00
Cost of Sales (1)	662,950	66.30	106,700	53.35	240,000	80.00	110,000	55.00	206,250	68.75
Manufacturing Margin	337,050	33.70	93,300	46.65	60,000	20.00	90,000	45.00	93,750	31.25
Variable Selling Costs	127,500	12.75	40,000	20.00	22,500	7.50	50,000	25 00	15,000	5.00
Contribution Margin	209,550	20.95	53,300	26.65	37,500	12.50	40,000	20.00	78,750	26.25
Fixed Overhead Costs										
Selling—Direct	20,000	2.00							20,000	6.67
" —Allocated	50,000	5.00	25,000	12.50	12,500	4.17	12,500	6.25		
Administrative—Allocated	80,000	8.00	25,000	12.50	10,000	3.33	10,000	5.00	35,000	11.66
Total Overhead Cost	150,000	15.00	50,000	25.00	22,500	7.50	22,500	11.25	55,000	18.33
Operating Income	$ 59,550	5.95	$ 3,300	1.65	$ 15,000	5.00	$ 17,500	8.75	$ 23,750	7.92

Conventional Analysis

	Total	%	Product A	%	Product B	%	Product C	%	Product D	%
Net Sales	$1,000,000	100.00	$200,000	100.00	300,000	100.00	$200,000	100.00	$300,000	100.00
Mfg. Cost of Sales (1)	662,950	66 30	106,700	53.35	240,000	80 00	110,000	55.00	206,250	68.75
Gross Profit	337,050	33.70	93,300	46.65	60,000	20.00	90,000	45.00	93,750	31.25
Selling Expenses	197,500	19.75	39,500	19.75	59,250	19.75	39,500	19.75	59,250	19.75
Administrative Expenses	80,000	8.00	16,000	8.00	24,000	8.00	16,000	8.00	24,000	8.00
Operating Income	$ 59,550	5.95	$ 37,800	18.90	$(23,250)	(7.75)	$ 34,500	17.25	$ 10,500	3.50

Note (1) Cost of Sales includes both variable and fixed costs. To compare "Cost of Sales" and "Contribution Margin" with Exhibit C, it will be necessary to adjust for fixed manufacturing costs included in this Exhibit.

Exhibit 5

will adequately fill management's needs. The use to be made of cost data will determine which approach is most applicable.

Use and Advantages of the Contribution Margin Tool

Let us now examine some of the ways in which the contribution margin approach to profit analysis may be used to present nonmanufacturing costs for management guidance. We will continue to use the hypothetical profit statement from Research Series No. 19.

Exhibit 3 is the combined contribution margin and full allocation statement taken from the Research Report. I have added the percentage ratio figures. Such a statement provides an answer to the problem of showing, in consolidated form, both the profit contribution by product lines before allocation of joint or fixed costs and the net profit position, consolidated and by products, after allocation of fixed costs. This combined statement shows management:

1. The amount and per cent of profit contribution by product lines or territories before fixed or joint costs.
2. The amount and proportionate size of fixed costs.
3. Which fixed costs can be charged directly to a product line or territory because of use or application.
4. The way in which the remaining pool of fixed costs have been assigned under the formula management and the accountant have established for allocation.

With such a combined picture of overall company operations, showing the profit margin contribution by products and the total of fixed costs which must be provided for out of this profit margin contribution, management's judgment and resulting decision on policy will be better than where no such breakdown is made.

Although I am a strong advocate of the use of the contribution margin procedure, to the exclusion of the net profit procedure, in the analysis of problems involving alternate courses of action concerning product lines and territories, I have full realization of the inherent danger in attempting to make a quick changeover of reports, eliminating the familiar and customary net profit approach which has been common usage for many, many years in accounting practice. It is for this reason that I advocate using the combined form of statement.

Now let us examine the difference in profits by product lines resulting from the separation of fixed and variable costs under contribution margin analysis as compared with what the profit by product lines

Contribution Margin Analysis
Effect of Change in Selling Price of Products A and C

	Total	%	Product A	%	Product B	%	Product C	%	Product D	%
Net Sales (1)	$1,000,000	100.00	$270,000	100.00	$200,000	100.00	$130,000	100.00	$400,000	100.00
Cost of Sales (2)	650,000	65.00	160,000	59.25	160,000	80.00	55,000	42.25	275,000	68.75
Manufacturing Margin	350,000	35.00	110,000	40.75	40,000	20.00	75,000	57.75	125,000	31.25
Variable Selling Costs (3)	120,000	12.00	60,000	22.25	15,000	7.50	25,000	19.25	20,000	5.00
Contribution Margin	230,000	23.00	50,000	18.50	25,000	12.50	50,000	38.50	105,000	26.25
Fixed Overhead Costs										
Selling—Direct	20,000	2.00							20,000	5.00
" —Allocated	50,000	5.00	25,000	9.25	12,500	6.25	12,500	9.65		
Administrative—Allocated	80,000	8.00	25,000	9.25	10,000	5.00	10,000	7.70	35,000	8.75
Total Overhead Cost	150,000	15.00	50,000	18.50	22,500	11.25	22,500	17.35	55,000	13.75
Operating Income	$ 80,000	8.00	-0-	-0-	$ 2,500	1.25	$ 27,500	21.15	$ 50,000	12.50

Conventional Analysis

	Total	%	Product A	%	Product B	%	Product C	%	Product D	%
Net Sales	$1,000,000	100.00	$270,000	100.00	$200,000	100.00	$130,000	100.00	$400,000	100.00
Mfg. Cost of Sales (2)	650,000	65.00	160,000	59.25	160,000	80.00	55,000	42.25	275,000	68.75
Gross Profit	350,000	35.00	110,000	40.75	40,000	20.00	75,000	57.75	125,000	31.25
Selling Expense	190,000	19.00	51,300	19.00	38,000	19.00	24,700	19.00	76,000	19.00
Administrative Expense	80,000	8.00	21,600	8.00	16,000	8.00	10,400	8.00	32,000	8.00
Operating Income	$ 80,000	8.00	$ 37,100	13.75	$(14,000)	(7.00)	$ 39,900	30.75	$ 17,000	4.25

Note (1) Product "A" selling price reduced 10%. Product "C" selling price increased 30%. This makes cost of sales percentages change since dollar cost of sales remains the same.

(2) Cost of Sales includes both variable and fixed costs. To compare "Cost of Sales" and "Contribution Margin" with Exhibit C, it will be necessary to adjust for fixed manufacturing costs included in this Exhibit.

(3) Since dollar selling costs remain the same as before price change, the variable selling cost per cent to sales ratio by products changes.

Exhibit 6

appears to be when using a conventional operating statement. Exhibit 4 is a conventional operating statement in which no breakdown between variable and fixed costs has been made of selling and administrative expenses. Selling and administrative costs have been distributed to product lines on the conventional straight percentage of total sales basis, 19 per cent and 8 per cent respectively.

Although we still show $80,000 consolidated operating income, the income by product lines is quite different from that shown on Exhibit 3. This is because Exhibit 3 gives a more accurate distribution of costs, made possible when variable and fixed costs are separated. It should be needless to say that with such an apparent difference in product operating income as shown by comparison of Exhibits 3 and 4, the accountant cannot afford to delay in using the contribution margin approach to cost and profit analysis.

Changes in Product Mix and Selling Prices

Exhibit 5 illustrates the use of contribution margin analysis to show the effect of a change in the sales mix of products and a comparison of this method of analysis with the conventional analysis statement. You will notice that we have changed the dollar sales of each product while maintaining the total of $1,000,000 company sales. Here again, we get a different picture of operating income by product lines when using contribution margin analysis than when using the conventional analysis in which no separation is made between variable and fixed sales costs and in which overhead costs are distributed on a straight "per cent of sales" basis.

For simplicity of illustration, so that we may concentrate attention on nonmanufacturing costs, we have not broken down cost of goods sold between variable and fixed costs. The same per cent of sales cost by product lines for manufacturing costs has been used as appears in Exhibits 3 and 4. The $12,950 increase in cost of sales on Exhibit 5 is due to the difference in cost percentage as between products, which on a change in sales mix causes a change in consolidated total cost of sales.

Let us now compare the effect on contribution margin between Exhibits 5 and 3, caused by the change in sales volume and the fact that each product has a different variable sales cost. Whereas in Exhibit 3 the consolidated variable sales expense was 12 per cent, in Exhibit 5 it is 12.75 per cent, making an increase in consolidated sales cost of $7,500. Comparing net operating income between these two statements, we find a marked difference in profit contribution, as

between products, caused by this change in sales mix and absorption of fixed overhead costs.

Exhibit 6 illustrates the use of contribution margin analysis on a change in the selling price of Products A and C and a comparison of this method of analysis with the conventional analysis statement. As in Exhibit 5, we have not broken down cost of goods sold between variable and fixed costs. Again, we get a very different picture of operating income contribution by product lines when using contribution margin analysis than when using the conventional analysis and "per cent of sales" method of distributing nonmanufacturing overhead.

These two examples, Exhibits 5 and 6, illustrate the technique of contribution margin analysis of product lines or segments of the business. *The most important factor in the analysis is the contribution margin per cent of sales.* This is the percentage of sales income available for payment of fixed costs and for operating income. Changes in variable selling costs of individual products, fixed costs, or any combination of overhead operating expenses, can be correctly and clearly analyzed under the contribution margin method and their effect on operating profits determined far more accurately than under conventional analysis methods.

Conclusion

I have endeavored to highlight from Research Series No. 19 what seem to be the major factors in this subject of analyzing nonmanufacturing costs and presenting the facts to management so that intelligent decisions can be made. Industrial accountants associated with companies manufacturing a number of product lines have undoubtedly faced many of the problems and complications which I have discussed. Also, no doubt, they have felt the inadequacy of the conventional presentation of product profit contribution.

Because of this inherent inadequacy in the conventional profit analysis statement, I urge the serious study of the contribution margin technique. Start applying the contribution margin approach to profit analysis wherever possible. Demonstrate its ability to sweep aside nonessential detail in policy determination. Use the combination of contribution margin with full allocation for presenting total company cost and profit results and relationship of individual products to each other and to total company. Management needs this newer picture of operations costs and profit potentials.

SESSION IV

RECOGNITION OF SUPPLEMENTARY LABOR COSTS

WEDNESDAY MORNING, JUNE 27, 1951

HENRY F. GUNTHER, Vice-President, Rau Construction Co., Kansas City, Mo., *Chairman.*

Ralph B. Knott is Vice President in Charge of Finance, Fibreboard Products, Inc., San Francisco, Calif., to which he came in 1948 as Controller. For the four precedings years, Mr. Knott was associated with McKinsey & Company, Management Consultants. His first business connection was with Eastern Corporation, Bangor, Me., with which he remained for a twenty-two year period, advancing from Payroll Clerk to Assistant Controller. He left in 1939 to join Raytheon Production Corp., and Raytheon Manufacturing Co. as Controller, transferring in 1941 to the Controllership of Union Potash & Chemical Co. and subsequently to its parent, International Minerals & Chemical Co.

Mr. Knott was the organizer and first President of N.A.C.A.'s State of Maine Chapter and has been an officer and/or director of Boston, Chicago and San Francisco Chapters.

James E. Caldwell is Assistant Comptroller of the Goodyear Tire and Rubber Company, Akron, Ohio, and has been associated with the organization since 1941. His first position was with the nationally known public accounting firm of Touche, Niven, Bailey and Smart. After thirteen years with the firm, he left to join Mercantile Stores Company, Inc., in 1935. Three years later he became a consultant with Booz, Allen and Hamilton, Management Engineers, in Chicago. He moved to New York City in 1939 as manager with R. G. Rankin & Co., and then joined Goodyear in 1941. He is a Certified Public Accountant in Illinois and New York.

He is active in N.A.C.A., has served as President of the Akron Chapter and now is a National Director.

Robert S. Coons is Assistant Secretary-Treasurer, Interstate Bakeries Corp., Kansas City, Mo. He has been with his company for thirteen years. His initial business experience was comprehended in nine years in public accounting with two nationally-known firms. Mr. Coons is a Certified Public Accountant of Missouri.

An active member of N.A.C.A., Mr. Coons is Past President of Kansas City Chapter.

David Himmelblau has been Head of the Accounting Department at Northwestern University, Chicago, Ill., since 1922. A Certified Public Accountant in Illinois, Professor Himmelblau has also been in independent practice since that date after four years as Partner with Arthur Andersen & Co. Author, Editor, and Compiler in the accounting field, Professor Himmelblau has rendered numerous civic services.

Professor Himmelblau is a Charter member of N A.C.A.

Warren L. Johnson is Chief Accountant, Wrought Washer Manufacturing Co., Milwaukee, Wisc. He has had twenty-one years' experience in public and industrial accounting. A Certified Public Accountant, Mr. Johnson is a member of the Wisconsin State Society of Certified Public Accountants and of the American Institute of Accountants.

Active in N.A.C.A. for the past eight years, Mr. Johnson is currently Vice-President of Milwaukee Chapter.

ACCOUNTING FOR SUPPLEMENTARY COSTS OF LABOR

RALPH B. KNOTT

Vice President, Fibreboard Products Inc,
San Francisco, California

SUPPLEMENTARY costs of labor. What do you know about them? How much are they costing your company? Just what do you consider when answering, "Yes, I know my labor costs." Have you really made a study of your facts and pulled together *all* of the hidden supplementary costs of labor buried deep in overhead accounts? Have you tabulated them and analyzed the data to be sure all the fringes are exposed? You will need this vital information in future dealings and for negotiations with your labor unions.

Current Recognition of Hidden Labor Costs

The Wage Stabilization Board under its Regulation No. 6 points up this matter of fringe benefits. I quote from Section 3, Paragraph E—Other Compensation.

"Increases in other compensation—to be considered for the purpose of applying the policy herein set forth—are prorated changes in compensation benefits such as night shift bonuses, overtime premium rates, vacation, holiday and like allowances, pensions and insurance, and health and welfare benefits paid by employers, or contributions of employers on account thereof."

Thus official recognition is given to these supplemental costs of labor by their inclusion under General Wage Stabilization Regulation No. 6.

We on the west coast have so fully recognized the impact of these costs on business, that last fall at the N.A.C.A. Western Regional Cost Conference held in Portland, Oregon, we spent one Saturday morning discussing this problem. Again in April, the San Francisco Chapter had the pleasure of listening to a discussion presented by Clause R. Groth, Assistant Treasurer of the Pacific Power & Light Company, on "Cost Control of Employees' Welfare and Benefits." The significance of this problem is also shown by the many comprehensive studies which have been released on a national scale. The

United States Steel Company in its 1950 annual report to stockholders stated on page 23:

"Few people are aware of the full extent of the increase since the 1930's in the cost of an hour's work. The reason is that in wage rate compilations there is general failure to include with the basic straight time wage rates numerous items of so-called "fringe" employment cost. The full cost of an hour's work to an employer includes not only the straight time rate for time worked, but many other costs that have been advancing rapidly in the past fifteen years. Such other costs include: overtime, holiday and shift premiums; vacation costs; pension and insurance costs; welfare fund payments; government old age and unemployment benefit taxes, workmen's compensation payments; accident and hospital expense; reporting time and other allowances; and, in certain mining operations, portal-to-portal payments. These "fringe" items have exactly the same effect upon production costs and selling prices as though they were straight time wages. The cost per employee of these "fringe" items to U. S. Steel in 1950 averaged about 34 cents an hour or 21 per cent of the straight time hourly wage. The straight time hourly wage of U. S. Steel's average steel mill worker for 1950 was nearly 1½ times the rate paid in 1936, but the "fringe" costs were eight times as great."

The Chamber of Commerce of the United States, in a research study prepared by its economic research department on wage supplements for 690 companies in 1949, found that the per cent of non-wage payments by industries to payroll varied from 9.4 per cent to 24 per cent. Again the U. S. Department of Commerce found, in one of its studies, that contributions for supplements to wages and salaries varied greatly by industry. This study in 1949 ranged from .3 per cent in agriculture to 22.9 per cent in the petroleum products industry.

Mr. George A. Lahusen of the Crown Zellerbach Corporation presented some very informative data at the West Coast Regional Conference. I quote excerpts from his paper.

"H. W. Heinrich, whose book 'Industrial Accident Prevention' is used as a 'bible' by the safety engineers, made an exhaustive research on the hidden or indirect cost of accidents. He found, and it has been substantiated by many others.... that the incidental or hidden cost is *four times* as *great* as compensation and medical expense. This four to one ratio has been challenged many times but has always survived the challenge. We have so many examples of accidents where the hidden costs are far in excess of the compensation premium costs that we are convinced that this ratio is true in the over-all picture.

"Here is an example of what I mean. We had a boy get his foot caught under the winder drum of our No. 9 machine. He could not get it out and it was necessary to shut the machine down for 2 hours and 20 minutes while the drum was being raised. This machine makes a sheet of paper 13 feet wide and a mile

long every 4 minutes.... We lost the production for 160 minutes. The total compensation amounted to $19.43 .... The hidden costs amounted to many times more than the 4-1 ratio because we lost 15 tons production on this machine, as the present price of this paper is about $110 per ton

"About a year ago we had a break in a chlorine line.... 10 people were overcome and many more received first aid treatment. This accident shut the mill down for several hours and we lost the production from 10 paper machines and loss of work of several hundreds of people because their wages were paid during that time.... Yet the total cost of compensation paid out to those 10 persons only amounted to $137.68. We could cite many cases where the ratio of 4 to 1 is extremely low.... To be sure there are many cases where an employee is injured and no loss of production occurs, yet there is always some hidden cost involved in every accident."

Labor Segments, "Payroll Expenses," Labor-Source Burden

I could quote additional data on the same subject but unfortunately it might result in comparing peaches and olives, as a basic set of ground rules has not as yet been applied to those studies which have been made. In other words, is the fringe applied to briefs or full length panties, and is it rick-rack or expensive battenberg which shows? Maybe, in order to save time, we should try to develop and classify into categories a few of the more significant facts and items to be considered today.

First let us look at items which we choose to classify as *segments* of direct or indirect labor costs. In our company we are fortunate enough not to have to recognize all of these items but, for the record, we feel that they should be mentioned. The major items under this category would include the following:

1. Straight time pay for hours worked.
2. Retroactive pay adjustments.
3. Separation or termination pay.
4. Call time regardless of actual hours worked.
5. Overtime premium payments or amounts paid in excess of base rates.
6. Shift differentials for night and swing shifts.
7. Premium pay based on bonus or incentive wage payment plans.
8. Guaranteed minimums in excess of normal rate under piece work or incentive plans.
9. Pay of trainees and apprentices in excess of normal for production actually attained. (In other words base rate guarantees).
10. Lunch periods when eaten on the fly.

11. Rest periods.
12. Wash up and change of clothes time.
13. Travel time or portal-to-portal pay.
14. Waiting for work or stand-by time.

Secondly, let us look at items which we consider as *payroll expenses.* The term used in other companies could be entirely different. In our cost accounting practice these particular fringe items are common costs between work or cost centers and are distributed on the basis of the total salary or payroll dollar. We include in this classification the following:

1. Retirement and pension payments for both federal old age benefits and the company contribution to its own retirement plan.
2. Unemployment compensation for both federal and state plans.
3. Workmen's compensation, which includes the estimated cost of our own self-insurance plan in states where applicable.
4. Company payments for group life insurance.
5. Paid vacations or payments in lieu of vacation taken.
6. Paid holidays taken.
7. Medical aid in states where applicable.

Third, let us just list a group of items which are definitely a part of the cost of operations but which we do not classify as labor or labor costs. (Probably they would be considered mainly as overhead items.) In other words, they are the hidden payroll costs which might be called *employee benefits* or costs which you would not incur during normal business operations except for your employees and public relations. In this group you might consider:

1. Purchase of uniforms, work clothes, and safety appliances.
2. Subsidizing meals during working hours.
3. All phases of general medical care, including special dispensary operations, with doctors, dentists and nurses at the plants.
4. House organs or employee magazines.
5. Length of service awards, in the form of pins, rings, watches, or what have you.
6. Time spent assisting employees with their income taxes and other services rendered to employees.
7. Repayment or advancing fees for tuitions in correspondence schools or night extension classes.
8. Special allowances for payments for time lost due to voting time, jury or witness duty, national guard or military encampment duty.

9. Accidents, death in the family or other personal reasons, time spent in behalf of union activities or credit unions.
10. Payments arising from labor disputes.
11. Gifts and donations to employees and their families.
12. Discount on goods and services purchased from or through the company.
13. Social, athletic clubs and recreational activities.
14. Awards for suggestions.
15. Net cost of operating company homes or commissary, towns, etc.
16. Contributions and donations to prevent plant interruption by solicitation of employees while at work.
17. Dues and membership in technical and trade associations.
18. Coffee habits, cafeterias, special lounges, music, etc.
19. Training courses and text books given in conjunction therewith.

I do not imagine for one minute that I have exhausted the list, as many of the items mentioned could be broadened and even broken down into finer units. But, for our purposes here today, I believe the major items at least have been placed into their appropriate classifications.

The Broad Fringe—Pension Plans

However, before we bring the discussion down to a specific set of problems at Fibreboard, it may be well to review first one of the major elements—in a broad sense—of supplemental payroll costs. I have in mind the big subject of pensions and pension plans. It has been listed first in the payroll expense group above. This is becoming a more and more important item of costs to many of us. Furthermore, the labor unions are using these plans as a big stick to wield during most labor negotiations. The astute business executive today must have a keen sense of this problem and a very definite understanding of how these commitments are increasing his obligations and the costs of doing business.

All employers, whether large corporations or small companies, are ultimately faced with the problem of what to do with superannuated employees. There are three obvious methods of meeting the problem:

1. All employees can be kept on the payroll until they are no longer able to perform any work. While this was the practice some years back, and it might be kindly practice, it is extremely costly

because under today's business conditions requiring high pressure work and efficiency, the old employees cannot keep up the pace. In fact the pressure might be too much for the older employees and for that reason it might not now be the "kindly practice." There are, of course, exceptions where the employee has special skills or qualifications. With the loss of efficiency in the superannuated employees, there is also a loss of efficiency in the younger employees because promotions occur only upon total and permanent disability or death. Thus it results in either a loss of interest or a loss of the services of those employees with ambition.

2. Companies could adopt a program of terminating, without further compensation, all employees upon attainment of a predetermined retirement age. In fact, it would not be necessary to have any fixed age at which termination would be made. Many concerns have had this program. But present thinking is certainly not along these lines and those with such programs today are candidates for serious labor problems and poor public relations.
3. The most equitable and soundest means of providing for the superannuated employee is to adopt a formal program of retirement and to fund the cost as it accrues. By this means the employees are aware in advance what to look forward to at their retirement. The cost of providing retirement income to superannuated employees should be spread over the work life of the employees by an orderly formal funded plan, thereby absorbing the cost during the period such expense is incurred. This expense can be compared to depreciation on buildings and equipment. If reserves are set aside for the depreciation of buildings and equipment, should not the same practice be adopted for manpower? Each is equally important and necessary to the operation of a business and each must ultimately be replaced. The day is long gone, if it ever actually existed, when manpower can be discarded without any consideration, because it is worn out.

   Under this third alternative, there are several sound means of providing funds for the retirement income of superannuated employees.

   A. Upon an actuarial determination of the cost of a retirement plan, payments may be made into a trust fund directly to

the retired employee by the concern through a self-administered retirement plan, or

B. The company may at the time of retirement, purchase with the funds of the trust, annuities from an insurance company which in turn would pay the retirement income to the retired employee, or

C. The company may purchase annuities directly from an insurance company as they accrue. Under either B or C, such funds may be accrued on a level premium basis or on a single premium basis. On the single premium basis the cost increases each year as the age of the employee increases, whereas on the level premium basis, the entire cost of providing the pension for each employee is determined and this cost is spread evenly over the work life of each such employee. In any event, the cost is reflected at the time the expense is incurred.

Many organizations have adopted unfunded informal plans and have suddenly found that the liability which has been assumed is outside the bounds of sound business practice. The danger of an unfunded and uninsured pension plan is that, as the company grows older, the number of superannuated employees increases. With such plans usually go a complete lack of knowledge of the extent of the liability that the company has or will assume. The usual procedure is to pay to each retired employee a portion of his earnings after retirement and take such payments as tax deductions when made. No consideration is given to the total that will have to be paid to each such retired employee nor the total payments that the company will be liable for on all of its annuitants, present and future. Nor is any consideration usually given to the ability of the company to meet these liabilities during periods of business recession or depression or how and where the funds are coming from.

Since the provision of retirement income for superannuated employees and formal retirement plans are a part of every-day business expense, their costs should be reflected currently and absorbed in the year they are incurred. Furthermore, if this practice is followed, the funds are available when needed. Hence the pension cost is met through profits directly related to production costs.

Company Background

The next step before we embark upon a detailed accounting discussion would probably be to indicate the exposure of our company to the problems to be discussed. Fibreboard Products Inc., and its seven subsidiary companies have about 6,000 employees. If we exclude approximately 1,300 office, technical, and some isolated employees, about 78 per cent of the remainder are represented by eleven major unions in thirty-nine separate plant locations. In our opinion, this represents a good cross section of management-labor relationships and the labor problems facing most business executives today.

It is probable that one of the most common interests of the group to which this talk is addressed, in relation to supplemental cost of labor, would center in the category of payroll expenses of which seven types were enumerated earlier. The problem becomes more acute as the ramifications held within the subject are analyzed and studied. One approach in presenting the subject would be the case study method. By and large, this approach is taken in the remainder of this paper. In the following discussion, I will refer to "standards," "budgets," and "actuals" because we operate under a standard cost system, but let me emphasize that the method of relating additional employment costs to payroll dollars in order to develop total labor cost is the same whether you use a standard, actual, or a job order cost system. With these comments as a background, I would like to offer for discussion the manner in which Fibreboard Products Inc. handles these payroll expenses, as one way of accounting for supplemental costs of labor.

Seven Classifications of Payroll Expense

Our standard payroll expense classification covers the seven major items referred to above and which are listed in Exhibit 1 and again in the top section of Exhibit 3 where they are accompanied by account numbers. Probably you are wondering where the figures there come from and what they represent. Let us take each account number and go back to the derivation and composition of the figures.

Account No. 70. Vacation and Holiday Pay. The expenses for vacations are continuing to mount. At our recent wage negotiations with two of the major unions, we again granted an increase to our employees for vacations. We had been operating under an agreement which provided for one week's vacation after one year's service and

two weeks after five years. The new agreement now provides for one week after one year and two weeks after three years of service. Thus, the company costs and liability are increased considerably, because this item is naturally charged to operations and products, and more time plus a drop in efficiency will result through longer vacations of the experienced employees.

It is our plan to control this expense through the personnel department at each operating location. These departments know who is eligible for a vacation and, from their records, can approximate the total liability created under the union agreement. Annually when the budget is prepared, the plant personnel department will give to the plant office manager an estimate of the annual cost for vacations at that location.

As to holiday pay, our union agreements spell out provisions for this item. In translating this into terms of cost for budgeting, we make up an analysis of the payroll by base rate brackets. Then we (1) multiply the number of eligible employees in each bracket by the appropriate hourly rate, (2) multiply the rate by eight to cover a standard working day, and (3) finally by the agreed number of holidays. The net result is the approximate annual cost of holiday pay to be budgeted.

The sum of these two factors, vacation and holiday pay, then provide the total plant cost to be budgeted for this account.

Accounts Nos. 71 and 72—Unemployment and Old Age Benefits Taxes. We are no different from other companies in regard to these items, just being the underpaid bookkeepers for Uncle Sam. However, it may be interesting for you to know how we accrue this expense and apply it to our operations. Annually, as part of our operating budget, we set up the anticipated costs for each item. This is necessary inasmuch as rates are different and the base taxable pay is also set at different annual levels. By estimating the year's payroll and, for example, providing for anticipated increases in direct labor base pay, we can approximate how much will be paid to employees whose earnings do not exceed the established taxable amount and for those who will have exempt wages. By calculation, then, we can determine the total annual charges for these costs. This amount is used for our standard payroll expenses which we will discuss subsequently.

Account No. 73—Medical Aid (Locations Outside California)—In the states outside of California, we are subject to this item. It covers the cost of doctor bills and medical supplies for employees

FIBREBOARD PRODUCTS INC. AND SUBSIDIARY COMPANIES

CONTENTS OF GENERAL LEDGER ACCOUNTS

Account No. 5403
Sheet No.
Issued
Effective

NAME OF ACCOUNTS RESERVE FOR PAYROLL EXPENSE

This reserve is established for the purpose of leveling the following types of payroll expenses by months throughout the fiscal year:

Vacation and Holiday Pay
Unemployment Taxes
Old Age Benefit Taxes
Medical Aid
Compensation (Industrial) Insurance
Group Life Insurance
Retirement Plan

The reserve is credited or debited with the difference between the amount distributed to Cost Departments monthly as the calculated payroll expense and the actual cost of the above listed items as developed monthly in Cost Responsibility, No. 69, Standard Payroll Expenses.

The contra debit or credit is always made to Cost Account No. 78, Payroll Expense - Reserve Provision.

NOTE: Cost responsibility No. 69 is established as a clearing account for the accumulation of actual payroll expenses and for the distribution of the calculated payroll expenses to other departments. The distribution to departments is accomplished by applying a pre-determined percentage factor to the actual salaries and wages incurred monthly by the departments as explained under Budget instructions.

The percentages used in distributing payroll expense to departments are to be reviewed monthly and adjusted when necessary, with the objective of arriving at a "zero" balance in this reserve at the preliminary closing of the fiscal year ending April 30, without distorting the costs of any one month.

Exhibit 1

injured on the job. The cost is based upon the number of man-hours worked at a rate established by the particular state or insurance company covering the risk. The total annual expense is estimated and is included with the other payroll expenses at these specific locations.

Account No 74—Compensation (Industrial) Insurance—We are self-insured in the State of California. Our plan of operation here is to maintain a separate set of books in the insurance department to cover these costs. The control account from this set of books ties into a reserve account on the general ledger of the company. To offset this reserve, we have investments in securities to assure liquid means to

provide for large payments which may arise. In the case of a catastrophe, we have overriding insurance with an outside insurance company to protect us against such a contingency. In respect to charges at plants and to cost centers, we do not attempt to apply occupational classifications, for example, by state manual rates, to the covered payroll risk, except as a guide to the distribution of these costs within a plant.

It is our practice to determine a year in advance the total anticipated coverage. This is included when the budgets are prepared and set up, as a segment of the standard payroll expense account. This total accrual is adjusted by increasing or decreasing the annual rate, based on the loss experience of each plant for the past year. In this manner a plant which has an excellent accident record would receive a correspondingly low charge for workmen's compensation insurance cost. For example, this is demonstrated by the outstanding record of the employees of our South Gate, California, plant. This plant operated from August 9, 1947 to June 17, 1950, which was 1,043 days or 7½ million man hours, without any disabling injuries. Therefore, they would be charged with only the minimum amount of cost for workmen's compensation insurance. Thus the rate this year for South Gate is 25 cents per $100 of payroll while, for example, our Vernon plant only three miles from there has a rate of 69 cents. These compare with a rate of over $4 for our hazardous logging and woods operations.

Account No. 75—Group Life Insurance—The company offers group life insurance to its employees after they have been on the payroll over sixty days. The average rate per thousand is determined by the insurance company and each plant is charged in its standard payroll expense account for the difference between the total cost of the life insurance on covered employees and the contributions received from these employees. The company pays all the costs in excess of the employees' contributions.

Account No. 76—Retirement Plan—We operate under a self administered-trusteed contributory retirement plan. A complete set of accounting records is maintained by our insurance department, including individual records for each participating employee. The retirement plan accounts are audited and approved by independent certified public accountants who submit their report to the retirement plan committee which in turn reports to the board of directors of the

FIBREBOARD PRODUCTS INC. AND SUBSIDIARY COMPANIES

CONTENTS OF GENERAL LEDGER ACCOUNTS

Account No. 4011 - 4025
Sheet No.
Issued
Effective

NAME OF ACCOUNTS Payroll Liabilities

These accounts are provided to record the liability for payroll deductions, exclusive of taxes, and for certain employers contributions to employees benefits connected with payrolls. Since the titles of the accounts are considered self-explanatory, no detail is furnished on individual accounts. For specific information see Budget Instructions on Cost Responsibility No. 69.

The following expenses are charged to plants and subsidiaries monthly by a Head Office debit memo:

Acct. No.	
4011	Fibreboard Retirement Plan - Employer Contributions
4017	Group Life Insurance - Employer Contributions

Since the charge to expense will be made directly from the Head Office debit memo, the above two accounts will not appear on plants' or subsidiaries' books.

Plants and subsidiaries will close out the following deductions to Head Office monthly by credit memo:

Acct. No.	
4012	Fibreboard Retirement Plan - Employees
4013	Voluntary Disability Plan (California)
4014	Accident & Sickness Plan (Other than Calif.)
4015	Hospital & Medical Plan (Calif. & Nevada)
4016	Supplemental Accident & Sickness Plan (Calif.)
4018	Group Life Insurance - Employees

These deductions should be closed to Head Office as of the month in which the payroll is paid. Specifically, those offices which pay their factory payrolls some days after the close of the pay period will retain on their books at the end of the month, the liability for the above deductions applicable to the last factory payroll of the month; such deductions will be closed out as of the following month, in which the payroll was actually paid.

Settlement of the remaining accounts, not referred to above, will be effected directly by plant and subsidiary offices. Payment must be made by means of voucher checks, not by use of payroll checks.

Exhibit 2

company. Such items as yield from investments, stocks and bonds purchased and sold and remaining funds, of course, are included in this report. The retirement plan committee also reports in detail on all annual activity under the plan.

The costs of administering the plan are borne entirely by the company. Such charges as trustee's, auditor's and actuarial fees are paid

by the company. These again add to the total of hidden supplemental costs of labor.

Annually an evaluation is made by an independent actuarial firm to determine the amount the company should pay into the trust to provide for past-service and current-service benefits under the plan. At the inception of the plan in 1945, past service benefits were evaluated, and in accordance with the Internal Revenue Department's requirements, this expense is being amortized over a ten-year period. It is necessary, however, to evaluate this cost annually, due to terminations of employment, retirements, deaths, interest earned, and additional benefits allowed through liberalizing the plan.

We prorate this expense on a basis of the covered payroll dollars. Our first major division is between selling and general administrative expense and manufacturing costs. Then the manufacturing portion is distributed by plant on the basis of the covered payroll at each plant location. Within the plant this expense follows total labor dollars as a part of the proration of our standard payroll expenses.

Plan of Accounting for Payroll Expenses

The seven categories of supplemental costs of labor just discussed cover the items classified as standard payroll expenses under our cost accounting system. In the discussion of each item, the method of determining annual costs has been explained. The next step, therefore, would be the summarization of these costs and their distribution from clearing accounts to cost center or department accounts and finally into product costs. Probably the easiest way to obtain a clear picture of how we provide for these costs would be to follow a set of the forms actually used. Exhibit 1 is a sheet from our standard practice manual covering general ledger account No. 5403—Reserve for Payroll Expense. You will recognize the items we have just been discussing and understand the method we use to level these costs over a budget period. The detail technique will show as we review subsequent exhibits.

Exhibit 2 is a sheet from our chart of accounts and describes the payroll liabilities as we reflect them on our balance sheet. The term general ledger account may apply to the records maintained at the plant as well as at the head office. We operate under a decentralized accounting system wherein each plant maintains its own books and consolidations are made at the head office. Through the use of strip

1951 1952 BUDGET
DATE EFFECTIVE JUNE 1 1951

FIBREBOARD PRODUCTS INC
Standard Payroll Expenses

DIVISION SAN FRANCISCO
COST RESPONSIBILITY - NO 69

ACCT NO	ITEMS OF COST	PREVIOUS YEAR AVGE. MONTHLY COST		CURRENT STANDARD MONTHLY COST	
		PER CENT	AMOUNT	PER CENT	AMOUNT
70	Vacation and Holiday Pay	30 4	8,000 00	33.8	9,100 00
71	Unemployment Taxes	14.8	3,900 00	14.5	3,900 00
72	Old Age Benefits Taxes	10 6	2,800.00	10.4	2,800 00
73	Medical Aid		—		—
74	Compensation (Industrial) Insurance	5 8	1,500 00	4 1	1,100 00
75	Group Life Insurance	4 6	1,200.00	3.7	1,000 00
76	Retirement Plan	33 8	8,900 00	33.5	9,000.00
	TOTAL PAYROLL EXPENSES	100 0	26,300 00	100.0	26,900.00

PAYROLL EXPENSE DISTRIBUTION TO DEPARTMENTS

CODE NO	DEPARTMENT	BUDGETED DIRECT LABOR HOURLY	BUDGETED INDIRECT LABOR HOURLY	TOTAL BUDGETED LABOR	BUDGETED RATE	PAYROLL EXP DISTRIBUTION TO DEPTS
10	Raw Material Handling	4,600 00	325.00	4,925.00	10.12%	498 50
14	K. B Size Making	200 00	—	200 00	"	20.25
15	Beaters and Jordans	18,100 00	253 00	18,353.00	"	1,857 25
16	No. 1 Board Machine	9,200 00	1,090 00	10,290.00	"	1,041.25
17	No 2 Board Machine	10,300 00	1,060 00	11,360 00	"	1,149 75
22	Mill Finishing	575 00	380 00	955.00	"	96.75
24	Waste Paper Baler	170 00	—	170 00	"	17 25
30	Conv Plant Raw Mat. Hdlg.	830 00	—	830 00	"	84 00
33	Paster Adhesives	155 00	—	155.00	"	15.75
34	Corrugator Adhesives	370 00	—	370 00	"	37.50
35	Corrugator	2,525 00	565 00	3,090 00	"	312.75
36	Paster	2,200.00	645 00	2,845 00	"	288 00
37	Corrugator	6,900 00	1,980 00	8,880 00	"	898 75
38	Solid Fibre Case	11,500 00	1,600 00	13,100 00	"	1,325.75
39	Corrugated Case	22,500 00	3,900 00	26,400 00	"	2,671 75
41	Carton	85,000 00	17,000 00	102,000 00	"	10,324 50
60	Maintenance	—	24,000 00	24,000 00	"	2,428.75
62	Steam Power Plant	2,200 00	—	2,200 00	"	222 75
63	Electric Power Plant	900 00	—	900 00	"	91 00
64	General Manuf Expense	—	3,900.00	3,900 00	"	394 75
70	Shipping and Warehousing	3,900 00	1,900 00	5,800 00	"	587 00
	TOTAL BUDGETED LABOR—HOURLY	182,125 00	58,598 00	240,723 00	10.12%	24,364.00
	Fixed Costs (Salaried Labor)			40,000 00	6.34%	2,536.00
	TOTAL BUDGETED LABOR AND PAYROLL EXP.			280,723.00		26,900 00

$$\frac{\text{Hourly Vacation and Holiday Pay}}{\text{Total Hourly Pay (Wages)}} = \frac{9{,}100\ 00}{240{,}723\ 00} = 3.78\%$$

$$\frac{\text{Other Payroll Expenses}}{\text{Total Wages and Salaries}} = \frac{17{,}800\ 00}{280{,}723.00} = 6.34\%$$

Hourly Payroll Dollar Rate for Distributing Payroll Expenses 10.12%
Salaried Payroll Dollar Rate for Distributing Payroll Expenses 6.34%

STATISTICS, EXPLANATION OF ADJUSTMENTS, ETC.

Exhibit 3

accounting reports, there is no duplication of figure work involved in our pattern of accounting.

Applying Payroll Expense Rates on Labor and Salary Cost Bases

Exhibits 3, 4, and 5 must be used together in order to follow the figures through the accounting process to their end results. We have shown a set of hypothetical figures on these reports in order to arrive at the supplemental costs of labor for a typical operating department. The corrugator department has been used as an example of how these costs are developed to the point where they become a segment of the

machine hour rate. Then, through conversion of this hourly rate at standard times, these costs are charged to the product as it is manufactured.

Let us start to follow the chain of accounting by turning to Exhibit 5. This form is used to develop the budget for a machine operation. The first step would be to determine how much and for how long the equipment will be used. Naturally this becomes a part of the overall budget program which has been tied into sales plans. We cannot branch into a dissertation on budgeting but only wish to show that this one piece of equipment is tied into a master plan. It will be noted that the anticipated hours the machine will be used are in the upper right hand section of the report. Once this fact has been established, the development of the standard crew becomes a matter of translating union position agreements and rates into standard monthly costs.

Part way down Exhibit 5 total direct labor (hourly) appears as $6,900 at standard. The 02 account number, indirect labor (hourly), is built up in the same manner. This estimate amounted to $1,980. These two figures are important in our discussion as they are the basic measures of how much of the payroll expense will be charged to the products manufactured on this machine. This amount, as can be seen by looking at the next account, is $898.75. However, to do this is to "peek at the back of the book." Where does this answer come from?

It is necessary now to turn back to Exhibit 3. In the middle of the lower half appears Code No. 37 Corrugator, which will serve for illustration. Following across on this line, the total direct labor figure of $6,900 again appears and then under the next (or indirect) column the $1,980 also, making a total of $8,880 as already developed on Exhibit 5. To this figure in Exhibit 3 is applied the rate of 10.12 per cent (see below) to give our figure of $898.75. Thus we have, on the example of the corrugator, the development and use of the labor figures used in compiling the total costs for budgeting the seven items shown in the top of Exhibit 3.

Salaries would be the next item. We consider all salaries as a part of fixed costs. This will be apparent from the location of the salary classification at the bottom of Exhibit 5. There it will be seen that it is included in making up the total of Account No. 65 Fixed Cost. Let us see how the payroll expenses follow the salary dollar. Exhibit 4, Standard Fixed Costs, gives the data on salaries. Note Account No. 03, Departmental Salaries. The salary amount of $785 which appeared

1951 1952 BUDGET
DATE EFFECTIVE JUNE 1, 1951

FIBREBOARD PRODUCTS INC.
Standard Fixed Costs

DIVISION SAN FRANCISCO
COST RESPONSIBILITY No. 65

ACCT NO	ITEMS OF COST	PREVIOUS YEAR AVGE. MONTHLY COST	CURRENT STANDARD MONTHLY COST
03	Departmental Salaries	—	—
	Pulp Mill	—	—
	Board Mill	4,900 00	5,400.00
	Fibre Case	650 00	700 00
	Corrugated Case	1,800 00	1,850 00
	Cartons	5,900 00	6,750 00
	Maintenance	2,650 00	2,750 00
	Steam, Electric, Water	1,050 00	1,100 00
	General Expense	—	—
	Shipping	1,400 00	1,450 00
	TOTAL DEPARTMENTAL SALARIES	18,350 00	20,000 00
03	General Overhead Salaries & Exp.	—	—
	Plant Accounting	4,000 00	4,300 00
	Standards and Methods	4,400 00	4,700 00
	Planning and Order	3,300 00	3,600 00
	All Other Operating	7,000 00	7,400 00
	TOTAL GENERAL OVERHEAD SALARIES	18,700 00	20,000 00
69	Payroll Expenses	2,590 00	2,536 00
16	Misc Supplies and Expense	255 00	300 00
40	Traveling and Entertainment	390 00	400 00
41	Telephone and Telegraph	650 00	650 00
42	Stat., Prtg, and Off. Supp	750 00	700 00
43	Postage	250 00	300 00
44	Subs, Dues and Publications	290 00	300 00
45	Donations (Charitable)	120 00	150 00
46	Legal, Audit, and Prof Fees	10 00	10 00
48	Prod. and Eng Dept Expense	4,300 00	4,600 00
	TOTAL GEN OVERHEAD SAL. & EXP	46,655.00	49,946 00
	Depreciation, Taxes, Ins, Etc.	—	—
85	Rentals	—	—
86	Depreciation	25,100 00	25,600 00
88	Property and Other Taxes	4,500 00	4,400 00
89	Insurance Charges	4,650 00	4,650 00
	TOTAL DEPN, TAXES, INS., ETC	34,250 00	34,650 00
	TOTAL FIXED COSTS	80,905 00	84,596 00

DISTRIBUTION TO DEPARTMENTS

CODE NO.	DEPARTMENT	PREVIOUS YEAR AVGE. MONTHLY COST		CURRENT STANDARD MONTHLY COST	
		PER CENT	AMOUNT	PER CENT	AMOUNT
16	No. 1 Board Machine	11 4	9,250 00	11.3	9,600 00
17	No. 2 Board Machine	12 4	10,050 00	12.4	10,500.00
35	Corrugator	1.2	975 00	1 6	1,320 00
36	Paster	1.9	1,550 00	2.0	1,700 00
37	Corrugator	3 9	3,210 00	4 2	3,525 00
38	Solid Fibre Case	8 4	6,800 00	8 4	7,100 00
39	Corrugated Case	12 5	10,100 00	13 0	11,000.00
41	Carton	48 3	38,970 00	47 1	39,851 00
	TOTAL FIXED COSTS DISTRIBUTED	100 0	80,905 00	100 0	84,596 00

STATISTICS, EXPLANATION OF ADJUSTMENTS, ETC

Exhibit 4

under Corrugator on Exhibit 5 is included with other Corrugators in the total show under the corrugated case department of $1,850 on Exhibit 4. From the budgeted salary totals on Exhibit 4, broken down by units or departments, we find that the anticipated salary cost will be $40,000, one half for departmental and the other $20,000 for general overhead salaries.

1951 1952 BUDGET
DATE EFFECTIVE JUNE 1, 1951

FIBREBOARD PRODUCTS INC
Standard Machine Hour Rate

DIVISION SAN FRANCISCO
DEPARTMENT CORRUGATOR No 37
COST CENTER No.

	PREVIOUS YEAR AVERAGE PER MONTH	STANDARD	ANTICIPATED ACTUAL (PREVIOUS EXPERIENCE ADJUSTED FOR KNOWN CHANGES)
Number of Machines	1	1	1
Total Man Hours	3611	2100	3611
Total Working Hours	600 00	350 00	600 00
Non-Chargeable Hours	50 00	24 00	50 00
TOTAL CHARGEABLE HOURS	550 00	326 00	550 00
Makeready Hours	—	—	—
Running Hours	—	—	—
Production per Month	40,000,000	24,000,000	40,000,000
Avge. Prod. per Running Hour	73,000	74,000	73,000
	USE ON PREVIOUS YEAR AVERAGE EXPERIENCE	USE ON CURRENT FIXED COSTS	USE ON CURRENT CONTROLLABLE COSTS

ACCT. NO.	ITEMS OF COST	PREVIOUS YEAR: EMPLOYEE HOURLY RATE	PREVIOUS YEAR: AVERAGE MONTHLY COST	PREVIOUS YEAR: COST PER HOUR	CURRENT: EMPLOYEE HOURLY RATE	CURRENT: NO EMP	CURRENT: STANDARD MONTHLY COST	CURRENT: COST PER HOUR
01	Direct Labor Hourly	—	—	—	—	—	—	—
	Operator	1 705	890 00	1 618	1 755	1	917 00	1 667
	Double Backer	1.575	825 00	1.500	1 62	1	850 00	1 545
	Knifeman	1 505	785 00	1 427	1 55	1	810 00	1 473
	Offbearers	1 425	1,490 00	2 709	1 47	2	1,537.00	2 795
	Back End Helper	1 425	740 00	1 345	1 47	1	765 00	1.391
	Premium	—	1,150 00	2 092	—	—	1,177 00	2 140
	Night Shift Differential	—	84 00	153	—	—	87 00	.158
	Non-Productive Cost	—	410 00	745	—	—	422 00	.767
	SUB-TOTAL	—	6,374 00	11 589	—	6	6,565 00	11 936
	Call and Overtime	—	400 00	.727	—	—	335 00	.609
	TOTAL DIRECT LABOR—HOURLY	—	6,774 00	12 316	—	—	6,900 00	12 545
02	Indirect Labor Hourly	—	—	—	—	—	—	—
	Crane Man	1.505	700 00	1.273	1.55	—	738 00	1 342
	Truckers	1 450	500 00	.909	1 495	—	620 00	1.127
	Scrap Man	1,450	240.00	.436	1 495	—	214.00	.389
	Janitor	1 425	70.00	.127	1 47	—	93 00	.169
	Foreman	—	120 00	.218	—	—	125 00	.227
	Premium	—	155 00	282	—	—	190 00	345
	SUB-TOTAL	—	1,785 00	3.245	—	—	1,980 00	3 599
	TOTAL INDIRECT LABOR—HOURLY	—	1,785 00	3.245	—	—	1,980 00	3 599
69	Payroll Expenses	—	980 00	1.782	—	—	898 75	1.634
10	Machine Clothing	—	—	—	—	—	—	—
11	Wires—Fourdrinier	—	—	—	—	—	—	—
15	Repairs Material	—	285 00	518	—	—	300 00	545
16	Misc. Supplies & Expense	—	100 00	182	—	—	100 00	.182
24	Unusual Repairs	—	1,000 00	1 818	—	—	1,000 00	1 818
26	Royalties	—	—	—	—	—	—	—
32	Equipment Rentals	—	—	—	—	—	—	—
60	Maintenance Service	—	650 00	1 182	—	—	750 00	1 364
61	Water	—	—	—	—	—	—	—
62	Steam Power	—	1,500 00	2 727	—	—	1,800 00	3.275
63	Electric Power	—	55 00	.999	—	—	60 00	109
64	General Mfg Expense	—	500 00	.909	—	—	465 00	845
66	General Tech. Control Exp.	—	—	—	—	—	—	—
	TOTAL CONTROLLABLE COST	—	13,629 00	24 779	—	—	14,253 75	25 916
	Salaries	—	750 00	1 364	—	—	785 00	2 408
	General Overhead Sal & Exp	—	1,200 00	2 182	—	—	1,400 00	4 294
	Taxes, Ins., Rentals, Depn. on Buildings	—	690 00	1 255	—	—	750 00	2 301
	Taxes, Ins., Depn. on Machinery	—	570 00	1 036	—	—	590 00	1 810
65	TOTAL FIXED COST	—	3,210 00	5 837	—	—	3,525.00	10.813
	TOTAL MACHINE LABOR AND EXP	—	—	—	—	—	—	—
	Beater Room Expense	—	—	—	—	—	—	—
	TOTAL LABOR AND EXPENSE	—	16,839 00	30 616	—	—	17,778 75	36 729

USE OTHER SIDE FOR STATISTICS, EXPLANATION OF ADJUSTMENTS, ETC

Exhibit 5

The next step is to find out how much in the way of total payroll expense should accompany the salary dollar. We all know that the salary paid includes an amount for holidays and vacations so, therefore, Account No. 70 shown on the top of Exhibit 3 must be excluded

from the salary classification. The manner in which we do this is shown at the bottom of Exhibit 3. It will be seen that we have computed two separate percentages, one for Account No. 70—Vacation and Holiday Pay on hourly wages, equal to 3.78 per cent, and the other covering all other Payroll Expenses at 6.34 per cent. This latter figure becomes the factor to be applied to the salary dollar. Fixed costs line (salaried labor), second above the last double ruled line on Exhibit 3, shows how this was followed through.

These total salaries of $40,000 are multiplied by the rate of 6.34 per cent, giving a cost for the seven items of payroll expense involved of $2,536. This amount can now be checked to Exhibit 4 as Account No. 69—Payroll Expenses chargeable to fixed costs. This amount in itself is not significant (it is only three per cent of the total fixed costs for the plant), but it is an *added* cost of the salary dollar paid and classified as fixed. This emphasizes again the fact that there *are* added costs of labor and salaries which must follow and be considered part of the total labor cost.

How the Reserve for Payroll Expenses Works

We have now drawn one side of the picture, namely, the chain of accounting entries which are used to develop product costs, through the application of a machine hour or labor hourly rate including all of the standard payroll expenses discussed. In developing the case study, we have of necessity touched upon some aspects of the actual side in the accrual of the standard payroll expense. However, in order to be sure no major points are omitted, Exhibit 6 is submitted to show how the reserve portion of these expenses is accounted for. The last section of this exhibit may be noted first. The initial column shows the variation between the amount actually reported as recorded in the second column and the standard or budget amount shown in the third. It will be noted that the amounts of variation are on the edge position at each side of the form. The main purpose of this placement is to enable us to shingle the forms on a spread basis in order to watch the trend of these figures. Recalling Exhibit 1, it will be remembered that the last paragraph stated that the reserve for payroll expense must be watched monthly. By use of these strip accounting reports, this can be easily accomplished. Major discrepancies will immediately be flagged to the attention of management and remedial action would be taken starting with the next month.

At the bottom of Exhibit 6, above the next to the last double-ruled line, note Account No. 78. This account is the reserve portion of standard payroll expenses and is explained in detail on Exhibit 1. The amount over (or under when negative) distributed payroll expense is charged or credited from manufacturing expenses to this reserve account. For example, let us assume that we are going to close down the entire operations of a plant for a two-week vacation period. The only employees working would naturally be some maintenance personnel, watchmen and standby firemen or engineers. The actual payroll distribution made at the time the employees took their vacation would then be largely chargeable to payroll expense Code No. 70—Vacation and Holiday Pay, rather than the normal charge to direct or indirect wages.

The next monthly operating report would show, under the actual column, a very large amount for Code No. 70 and also a very small amount under Code No. 69—Payroll Expense Distributed. The net would result in a large balance of under-distributed payroll expense. This amount would then be charged into the reserve account to be held and absorbed over the balance of the fiscal year on the standard rate basis.

It is this philosophy that we use in accruing and holding major items of payroll expense. Through the use of the reserve account, we are able to smooth out the peaks and valleys in the accumulation and absorption of these expenses. As a result, our figures are more meaningful to management and we are not placed in a position of trying to explain wide fluctuations in monthly costs. One word of caution should be given now. A close check must be kept on the balances in the payroll reserve account. If not, it is possible to wake up some morning and find a substantial adjustment to make through cost of sales account.

Speaking of management reports, our monthly operating statements, in contrast to the budget exhibits, open up with a section on labor. We show direct hourly labor, indirect hourly labor, then payroll expenses, coming down to a sub-total of total labor cost. Through this type of presentation, the supervisor of each department cannot overlook the costs of the items we have just discussed.

A Word on Overhead Costs

For just a few minutes, it might be well to discuss some of the items in the third major category of supplementary costs of labor for which

FIBREBOARD PRODUCTS INC

COST STATEMENT
NO 64
DATE June 1951
DIV San Francisco

Department—General Manufacturing Expense

Current Month: Variation (Memo)	Current Month: Actual	Current Month: Budget		Items of Cost	Year to Date: Budget	Year to Date: Actual	Year to Date: Variation (Memo)
				INDIRECT LABOR HOURLY			
(200 00)	1,900 00	1,700 00		Janitors	10,200 00	11,500 00	(1,300 00)
50 00	1,150 00	1,200 00		Watchmen and Gatemen	7,200 00	6,800 00	400 00
—	300 00	300 00		Laboratory Wages	1,800 00	1,800 00	—
(50 00)	400 00	350 00		Storeroom Wages	2,100 00	2,300 00	(200 00)
(200 00)	550 00	350 00		Other Gen. Hourly Wages	2,100 00	2,600 00	(500 00)
(400 00)	4,300 00	3,900 00	02	TOTAL INDIRECT LABOR HOURLY	23,400 00	25,000 00	(1,600 00)
(40 25)	435 00	394 75	69	Payroll Expenses	2,368 50	2,530 00	(161.50)
325 00	550 00	875 00	15	Repairs Material	5,250 00	4,950.00	300.00
(1,300 00)	3,800 00	2,500 00	16	Misc Supplies and Expense	15,000 00	14,750 00	250 00
			16D	Fire Protection			
—	150 00	150.00	24	Unusual Repairs Material	900 00	1,200 00	(300.00)
600.00	1,800 00	2,400.00	60	Maintenance Service	14,400 00	13,900 00	500.00
			62	Steam Power			
(25 00)	225 00	200 00	63	Electric Power	1,200 00	1,175 00	25 00
(840 25)	11,260.00	10,419.75		TOTAL GEN. MFG. COST	62,518 50	63,505 00	(986 50)

Variation from Standard	Amount Charged		Charged to Departments (Basis—Departmental Hourly Labor Dollar at Budget Rates)	Amount Charged	Variation from Standard
(50 00)	1,100 00	16	No 1 Board Machine	5,625 00	(125.00)
(40 00)	1,200 00	17	No. 2 Board Machine	6,050 00	(125 00)
(6 00)	150 00	35	Corrugator	700 00	(45 00)
(9 00)	200 00	36	Paster	1,100 00	(7 00)
(30 00)	600.00	37	Corrugator	2,900.00	(19.00)
(30.00)	750.00	38	Solid Fibre Case	4,900 00	(150 00)
40 00	1,550 00	39	Corrugated Case	8,450 00	(690 00)
130 00	6,550.00	41	Carton	34,650 00	(695.50)
(5 00)	12,100.00		TOTAL GEN MFG EXPENSE CHARGED TO DEPARTMENTS	84,375.00	(1,856 50)
x x x			OVER OR (UNDER) ABSORBED GEN MFG. EXPENSE (ACCT 6692)		x x x

Summary of Payroll Expenses

COST STATEMENT
NO

(MEMO)

Variation	Actual	Budget			Budget	Actual	Variation
800 00	8,300 00	9,100 00	70	Vacation and Holiday Pay	54,600 00	52,650 00	1,950.00
(1,600.00)	5,500.00	3,900.00	71	Unemployment Taxes	23,400 00	26,425 00	(3,025 00)
(700 00)	3,500.00	2,800 00	72	Old Age Benefits Taxes	16,800 00	17,825 00	(1,025.00)
			73	Medical Aid			
—	1,100 00	1,100 00	74	Compensation Insurance	6,600 00	6,600 00	—
—	1,000 00	1,000 00	75	Group Life Insurance	6,000.00	6,000 00	—
—	9,000 00	9,000 00	76	Retirement Plan	54,000 00	54,000 00	—
(1,500 00)	28,400 00	26,900.00		*Total Payroll Expenses*	161,400 00	163,500 00	(2,100.00)
x x x	27,400 00	x x x	69	Less—Payroll Exp Distributed	x x x		x x x
x x x	1,000.00	x x x	78	OVER OR (UNDER) DIST. P R. EXP	x x x	1,650.00	x x x

	Budget	Actual
Rate per Payroll Dollar—Salary	6 34%	6 40%
Rate per Payroll Dollar—Factory	10 12%	10 20%

64-69 NO
June 1951 DATE
San Francisco DIV

Department—General Manufacturing Expense

NO 64-69
DATE June 1951
DIV San Francisco

Exhibit 6

a listing was provided at the start, the category of overhead costs. Probably it would again be well to roughly point out the methods used at Fibreboard, as a springboard for discussing these items.

It is our policy to charge expenses to the lowest level of cost control possible. For example, we have a carton department, so called, within which are innumerable finishing operations and machines. Our lowest

level here for items in the overhead category would be the carton department overhead account rather than each individual unit or machine comprising the make-up of the department. The superintendent responsible for the carton department, of course, is held accountable for all expenses within his entire operations. The next step above the major departmental level would be the plant general manufacturing overhead account. To cost control at this level, all expenses applicable to the plant as a unit would find their way. Items which affect more than one cost center in a particular plant would be charged to these accounts, if they could not be directly distributed.

Then there are company-wide items. In this case the charges would be made to general administrative accounts. Here they would also follow the functional departmental line of the staff departments involved, as for example, public and industrial relations, contract or legal operations, production administration, research or similar staff functions. Therefore, in reviewing the nineteen items which were listed for Category No. 3, it will be clear just where the breaking point comes in the overhead department class in the distribution and accumulation of these expenses.

In brief, we attempt to hold individuals responsible for costs incurred. If they have the power to authorize the expenditure of funds, then they must accept the charges made for the activity involved, as part of their cost of operation. In the preparation of budgets for cost centers, these items are fully discussed and the supervisor or key executive knows the detail of all charges made to his cost responsibility.

A Subject Without End

We could spend many hours in discussing individual items such as cafeteria operations and the good old American custom of coffee hours. Also a lot of other items we have enumerated under this category of supplemental costs of labor would stand further comment. However, I know you all are looking forward to the panel discussion and possibly obtaining an answer to a question which has been bothering you. Therefore, in closing, I would like to express the hope that in this discussion you have obtained the feeling that the problem of fringe benefits is a big one.

Each time I review the data on the subject I become more and more impressed with the fact that all of us should explore the field and endeavor to establish accounting techniques to bring together the many

facets to the problem. We are just starting to feel the impact which is bound to develop as the labor unions wield this club. Do all of you know what these items are costing you? If not, may I suggest that, when you return to your office, you start to check off and tabulate these costs and I guarantee you will start for the box of aspirin to ease the headache you have developed. Furthermore, in my opinion, the management of the companies in this country should inaugurate a campaign to educate their employees as to just how lucky they are in the exquisite batttenberg they have for their fringes. Let us show it to them with a big dollar sign!

PANEL DISCUSSION—SUPPLEMENTARY COSTS OF LABOR

JAMES E CALDWELL DAVID HIMMELBLAU
ROBERT S. COONS WARREN L. JOHNSON
RALPH B. KNOTT

CHAIRMAN GUNTHER: In our discussion here this morning, we might well remember that we have all been living together now for several days and we are pretty well acquainted As a matter of fact, we are getting close to being relatives. We are going to conduct the remainder of this session in a very, very informal manner. We have traveling microphones in the hall, so do not hesitate to put your hand up and make yourself known. Please mention your name and firm connection. That is very important in this type of discussion.

We have a few questions already coming in. Here is one, "Should supplementary labor costs related to plant erection be capitalized? If so, would such items as pensions, f.o.a.b , etc , be deductible for federal income taxes?" It is submitted by F. E. Harris (*Detroit Edison Company, Detroit, Mich.*). Dave, would you care to elaborate on that?

PROF. HIMMELBLAU: The questions of good cost accounting and deductions for income taxes are wholly dissimilar. If your primary objective is to see how much you can deduct from taxable income, you just forget your cost accounting. However, if you are going to talk about good cost accounting, it is obvious those items should be included in amounts capitalized

I am assuming, from the nature of the company, that it has its own construction department and is doing all of its own construction work. Now, we can remind ourselves that, under the tax regulations, there are definite rules as to what is a capital expenditure and what may be deducted from taxable income even though you capitalize it on the books.

Those two are separate problems. I could spend the whole period trying to analyze them. I think we can simplify the matter by reminding ourselves that there is no necessary correlation between tax accounting and good cost accounting. As long as the books are kept on a tax basis, you can still have good cost records as a separate record. If you keep your books on a basis of good cost accounting,

you can still rearrange those figures in your tax returns. You may have a lot of explanations to make, but it can be done and it is done.

My own thinking is that we are now talking cost accounting and we should give primary attention to what is the best cost accounting practice so that management knows what it really costs to construct as well as to maintain. On that point I think there is very little argument; the same principles, the same rules, should apply to construction labor work as to maintenance work.

CHAIRMAN GUNTHER: In other words, you are speaking about construction with the company's own forces?

PROF. HIMMELBLAU: Yes.

MR. GUNTHER: No contracts?

PROF. HIMMELBLAU: Contracts are not involved at all.

CHAIRMAN GUNTHER: Does anyone want to take issue with that? You know, it is mighty nice to be able to definitely settle all these questions once and for all, so you can go back home and set them up on your books and say, "Well, now, everybody was in agreement at the Annual Conference, so it must be right."

JOSEPH C. KRUGER (*Assistant Controller, Butler Manufacturing Company, Kansas City, Mo.*): I would like to ask a question in connection with just what the discussion has been covering. We sometimes do our own construction work. We use a standard cost system and we use overhead rates based upon direct labor. In other words, we spread our expenses based upon direct labor in our manufacturing operations. Now, in work which we do for ourselves, such as this construction work or the making of tools and dies and other asset items, is it advisable to employ standard overhead used in regular production work or would it be advisable to eliminate some of the items such as, we will say, maintenance or some things that do not go into the actual work, thereby making a reduction in standard overhead as used to capitalize an asset item? I would like to direct that to Prof. Himmelblau.

CHAIRMAN GUNTHER: Dave, you are called again.

PROF. HIMMELBLAU: I shall disagree with you immediately on your standard overhead. I cannot conceive how you can have a single standard overhead rate applicable to such dissimilar items as the manufacturing of products and construction work in the plant.

I thought we long ago had agreed that the over-all standard is impractical for most companies and we should develop a standard over-

head for each particular situation. So, since construction and your products are different things, you must have different standards. I cannot conceive how you can have just one. It might be, but I doubt it.

CHAIRMAN GUNTHER: Do you want to say something about that, Warren?

MR. JOHNSON: Yes. The making of own tools and dies has been mentioned. I would like to toss this thought into the ring. I do not believe you should add burden to the cost of construction of assets such as tools and dies or to building construction unless it is a set program and you can develop it and assert how much you have each year. You might segregate a portion of the burden to be applied to construction of the building but, on the other hand, if it is done on the spur of the moment or only now and then in respect of addition to your plant and you build a few tools here and there, I think it distorts too much the burden rate you are using in the cost of manufacturing. In our company, we do not use burden figures in the capitalization of construction costs.

PROF. HIMMELBLAU: Your method, I think, is most commonly used.

R. W. HERR (*Controller, Fox Paper Co., Cincinnati, Ohio*): I would like to ask a question in connection with pension plans. Mr. Knott has mentioned the possible straight line or single premium payment plans. I assume that the premium will be deductible for federal taxes in the year paid in either case. In that connection, if you had an annual premium plan and anticipated payments to the insurance companies for some years ahead, would those be deductible in the year they were paid?

MR. KNOTT: If you are going into a form of pension plan, you would have to pick up a past service benefit to bring you up to a current position and, if you do, the Government will require you to fund that over a ten-year period. However, from there on, each year, the premium would be deductible for tax purposes. As a matter of fact, over the ten-year period, your contributions are deductible for tax purposes as they go along.

Now, whether you are on a single premium basis or level premium basis, I cannot see that it would make any difference, except that you have leveled out your premium cost in the latter case and are going to have the same consistent charge each year. On the single premium basis, you are going to build up a higher cost for one year and that

will level off in the subsequent year. I should think, as long as you have expended it, they would both be acceptable for tax purposes.

Mr. Herr: Would you pay it as an anticipation of premiums, as single premium payments?

Mr. Knott: I think if you are going into it you will have to take what is paid. I do not think you can anticipate the amount of the premiums, but it is a matter of actual amounts paid out.

Mr. Herr: I see. Thank you.

Stuart W. Frye (*Cost Accountant, Norma-Hoffman Bearing Corporation, Stamford, Conn.*): On Exhibit 3 to your address, raw material handling cost is shown. Would you include this charge in standard cost of the raw material?

Mr. Knott: That charge does find its way back into the inventory account. Yes.

Chairman Gunther: I think there is a gentleman over at the right who has been waiting for some time for a question.

A. E. Hackbarth (*Vice-President and Treasurer, Rathborne, Hair and Ridgway Box Company, Chicago, Ill.*): How do you account for time lost by productive labor due to rest periods, call time, attendance at meetings and so forth?

Chairman Gunther: Bob, do you want to take that?

Mr. Coons: In our company we do not attempt to keep separate costs on those items in our accounting. The only costs we do segregate in our accounting with respect to supplementary labor costs are vacations, holidays, social security taxes and items which actually involve a separate outlay of cash at the time the cost is incurred.

Mr. Hackbarth: Are they treated as labor variances then or indirect labor?

Mr. Coons: They follow the labor which gives rise to the cost.

Chairman Gunther · Any more questions from the floor before we go ahead with the written questions?

Lewis G. Schaeneman (*Staff Member, Scovell Wellington & Co., Springfield, Massachusetts*): On the question about application of overhead to capital items, I would like to comment to this effect. Corporations which do so may be penalized by the federal revenue agents if they charge in overhead and these premium payments to construction in their cost accounting system. I believe Prof. Himmelblau made a distinction between cost accounting practices and what we might wish to do for tax purposes. I think there is a real distinction

there, but I also think that you will find that you will have difficulty in negotiation with the Treasury Department when you charge these items to capital.

I know of one instance where a corporation set up, based on an engineering study, 36 per cent as its overhead rate for capital items as against about 125 per cent on production. I know of no corporation which does not have a cost accounting system of this type where the Treasury Department has insisted that the company capitalize overhead. In this particular case, not only does the revenue agent insist on capitalizing the overhead, but he wants to push the rate up.

Now, a technical director of one client said to me, "Well, it is either right or wrong," but when you come to certain tax matters, it is not a question of right or wrong. There are many borderline things which you have to work out. It is manifestly unfair to penalize corporations which have a good cost accounting system.

Chairman Gunther: Dave, I think he aimed that at you.

Prof. Himmelblau: Like so many other things, every statement we make is provisional only. Now, as often happens, the penalty to which you refer may take on a different aspect on reviewing a number of years. If what you describe happened a number of years ago, you get it back through depreciation in a still higher tax rate year, so you have no disadvantage. You are getting an advantage and not knowing it.

It seems to me that we should not try to mix cost accounting with taxes. The two will not mix. If your thinking is dominated by taxes, particularly what you can deduct this year, you cannot have good cost accounting. Your records are based solely on what you think you will get by with for taxes. Your cost records will then have to be supplementary statistical records. If that is what you want, that is the way you keep the record. But, so far as cost accounting goes, it has to be done on the basis of what is sound and useful to the people who are going to use the record. If it is not useful, why keep the record?

When we come back again to this construction question, I think we all will agree that our usual records are not useful. They lack significance if we merely put our construction on the so-called prime cost basis with just a few little items added thereto for other costs. Nobody can use them in the management of the business. If anybody thinks that is the way it should be done to save a dollar in taxes and

can prove that the dollar is actually saved over a period of years, that is what you do. However, I think we should concentrate today on what is the best way of doing cost accounting. We can argue the other subjects some other day but, for cost accounting purposes, I maintain, as a personal viewpoint, that we make a major error when we try to use the same so-called standard rate for construction and production work. Construction is a peculiar situation It should have its own rate based on a study of the facts in each case and that rate should be a true rate as far as there is such a thing as a true rate.

We tend to confuse ourselves because one moment we are thinking of a so-called standard rate and the next moment we are thinking of a differential cost and we get ourselves all mixed up. If you have continuous construction, of course, the standard rate method is the better one. If you have the occasional construction mentioned a moment earlier, perhaps the differential rate, only the additional out-of-pocket cost, is the better one. I do not know the answer to that. But, so far as our problem today, supplementary payroll costs, is concerned, I maintain that all supplementary payroll costs applicable to construction should go there and should not be dumped some place else.

Chairman Gunther: I am glad Dave mentioned that construction is a peculiar thing. I have thought that for a good many years, but I do not know what to do about it.

A. A. Sterns (*Chief Supervisor of Audit, Canadian Treasury Department, Ottawa, Ontario*): Professor Himmelblau, will you tell me, do you consider overtime premium as a labor charge? I am thinking of the case in which a company does "blow up" its labor hours and considers overtime premium in its direct labor for distribution of overhead. As a second matter, would you consider similarly a shift bonus and other bonuses in the same category?

Chairman Gunther: Jim, you have not had a whirl here, will you answer this question?

Mr. Caldwell: I am awfully glad that question is my first one because I was very carefully coached on it before I left Akron. That is about the only one that I know. Maybe the word "know" is too definitive. I do not necessarily know. Furthermore, I was just beginning to think if we allowed enough time to pass, I might be able to fold my tent and slink silently away.

My first note on this piece of paper I brought with me says, "Shift

premium is paid to the man and follows the charge for his earnings," quoting our own factory cost accountant. In other words, it is direct labor. It is figured in the standard rates and, of course, follows the direct labor charges all the way through. Now, with respect to overtime premium, it is our practice at Goodyear to carry that in overhead.

However, we do not lose track of it as a very important charge. It is featured as a premium charge, right along with direct labor, so that it is brought very forcibly to the attention of the operating management.

However, it is considered overhead and is apportioned on the overhead philosophy. I might add, as additional comment, this experience with the matter of overtime. It was mentioned that I was associated with an aircraft organization during the war and, at that time, it was a beehive of activity. We started out by throwing the overtime premium in with the direct labor charge. We used a tabulating installation. We had a very elaborate setup for applying direct labor against war contracts but, later on, the Army insisted that we treat overtime as overhead and we had to tear down the whole elaborate structure of charging.

The interesting thing which arose out of this was that, during the period overtime premium went in as a direct charge, we had arguments with the service the work for which was associated with the direct labor charge, i.e. we had trouble with the service the work for which was being done during the overtime periods. When we changed and put overtime premium into overhead, we had trouble with the services the work for which was being done in the regular first shift operation, so you cannot please everybody.

Chairman Gunther: Does that cover your question?

Mr. Sterns: I would like to hear from Prof. Himmelblau whether that is sound accounting practice.

Prof. Himmelblau: Again I have to say that we have to define our objective before we can get an answer. Personally, I think all that overtime is direct labor cost. The difficulty arises because we have used direct labor cost so frequently as a basis for overhead distribution. Overtime premium is direct labor cost, but it should not be in the basis for overhead distribution.

If you will make that adjustment in your record keeping, you will eliminate all the grief the Army gave the other gentleman.

Overtime premium should not be in the basis for burden distribution, but it is still labor cost.

MR. STERNS: Would the same apply to shift bonuses?

PROF. HIMMELBLAU: The shift bonuses might be the same but, if you are running steadily on a shift basis, I would doubt if it is practical to treat them in the same way because it is almost impossible to determine in your records for a particular product whether it came off Shift No. 1 or Shift No. 2 or Shift No. 3, and the shift differentials are rarely so large as to have the same effect as a 50 per cent overtime or double time payment. In other words I would not go that far with shift differentials but, if the amount was important, the same point would apply.

CHAIRMAN GUNTHER: Here is a question submitted by Herbert Harris (*Green Colonial Furnace Company, Des Moines, Iowa*) directed to Mr. Knott. It says, "Please elaborate on the comparison of vacations and holiday pay by months, actual versus budget, when accrual is used."

MR. KNOTT: We establish a budget for the year. It does not make any difference whether the plant is closed down for two weeks' vacation or whether the employees take their vacation spread out over a period, as allowed in the union agreement.

We anticipate the total cost because, in the union contracts, an employee is eligible for a vacation after he has worked so many hours. Therefore, the liability is established. We either give him a vacation or pay for it. Either way, it would not make any difference how it is set up. Fortunately, the union contract expires at the same time as the fiscal year so we do not have to carry over reserve.

MR. HARRIS: In that case would not you budget the actual?

MR. KNOTT: No, because your budget takes care of your vacation for the year. Your actual takes you directly from the pay roll as a pay roll distribution. Therefore, if your employees are on vacation, the actual pay roll distribution would be charged against Account No. 70, Vacation Pay. Your budget would take in only one segment of that, which is a twelfth of the portion of the annual cost, so your budget and actual would not be the same until you completed the cycle at the end of the fiscal year.

L. E. ZASTROW (*Assistant Comptroller, Bucyrus Erie, South Milwaukee, Wis.*). I would like to introduce this thought in connection with overtime premium as related to government contracts. We manu-

facture large equipment and are still on a job basis, as compared to standard costs. In connection with such jobs, if we carry out government contracts as well as contracts for civilians, I do not believe that the government will permit charging overtime premium to its job just because overtime happens to be used on that work. I think you would be forced to put it into overhead and distribute it on a direct labor basis.

CHAIRMAN GUNTHER: Do you want to take that, Jim?

MR. CALDWELL: You are correct, sir. The Government today will require you to charge overtime to overhead and apportion it. The episode I was relating happened early in the war while everybody was a bit confused.

JAMES W. JONES (*Internal Auditor, Bendix Radio Division of Bendix Aviation Corporation, Baltimore, Md.*): Mr. Chairman, I would like to add some comments from my experience in connection with the handling of overtime premium and shift premium. Mr. Caldwell is probably aware that his company did some work for us in connection with towers, but our work involved a great many activities and we have had experiences with various government agencies regarding this overtime and shift premium.

Most of the comments on the floor this morning have related to overtime premium, but the shift premium is also thrown out by folks we deal with in the government agencies. We have to include it as part of the factory burden and, in ASPR Section XV, it is specifically laid out that these premiums are the results of all work performed in the factory and not of a particular contract. So they will not allow us to include them as direct charges. However, and I give this to you from our experience, there have been one or two occasions when we have been able to get direct overtime premium into contract cost, but there were extenuating circumstances and the contracting officer approved it.

CHAIRMAN GUNTHER: Do you have any comment on that, Warren?

MR. JOHNSON: The answer that was given need not be questioned. The matter depends on the case you are dealing with I believe if the company was utilizing its plant entirely on government contracts, there could be no question as to the fact that it could not accept a standard on the total shift premium to be applied to all contracts, but if it is mingling government work with private work, then I believe that it

would not be permitted to use the shift premium against any specific contract.

The point I wanted to bring out before is that I believe we are overlooking the fact and the impact of these fringe and supplemental labor costs. I would like to take the opportunity now to give a short review of a little study I made. It goes back for five years. I segregated some of these items which are commonly known as fringe benefits and supplemental labor costs. This happens to be a case without a pension plan.

In 1946 the supplemental labor costs were 23 per cent of direct labor, in 1947 21.9 per cent, in 1948 22.1 per cent, in 1949 25.3 per cent and in 1950 32.3 per cent. Now, this develops in dollars to persons employed. The first year it was $236.35 per person employed, $252.39 the second year, $269.51 the third year, $322.87 the fourth year and in 1950 it had jumped to $458.45 per person.

Those were actual supplemental labor costs in dollars applicable to persons employed. I think that is the point we must recognize. How heavy is this burden becoming? We all know that we have these costs, but do we realize to what extent they exist? It is also known that, where we have pension plans, these supplemental labor costs may go as high as $1,200 per person employed. Now, that is quite a lot of money.

F. R. Maston (*Comptroller, Cooper Tire and Rubber Company, Findlay, Ohio*) : This question is addressed to Mr. Knott. First, what type of insurance plan do you have for hospitalization and group insurance, whether it is the normal insurance plan or the retention basis? Second, how do you account in your fiscal year for either a dividend or return on the retention plan basis of unused funds advanced by the company for budgets? For instance, do you take into consideration the amount which will be returned or do you let the following year take full advantage of the credit given you?

Mr. Knott: As a general rule, on the budgeting we anticipate a return coming back. Therefore, we budget out the net amount going ahead. On the health and accident insurance we have an insurance company plan. We are not self-insured on that. We have the supplemental health and accident insurance for the employees.

Mr. Coons: I might comment on that, too. In our company we are on a dividend basis, but we budget out to expense a portion of the cost which the company elects to carry and the remainder is carried

in a reserve on the balance sheet for the future adjustment of group insurance rates to employees.

CHAIRMAN GUNTHER: We have time for just two more questions.

D. S. MOFFITT (*Accountant, Connecticut Hard Rubber Company, New Haven, Conn.*) : The time standard set up for a job is supposedly an engineering figure. As we all know, there is a loading in there for so-called personal time. That, I understand, in some companies, has now become a bargaining issue increasing the personal allowance to 25 or 30 minutes and, in some cases, pushing it even higher. That seems to be a supplementary cost of labor.

I wonder if anybody has made an analysis of what that is costing his company and what they are doing about it.

CHAIRMAN GUNTHER: Jim, we are about down to you again.

MR. CALDWELL: Our company has made no particular study of it, but let us agree that it is a substantial item. Certainly, in setting standards, we would allow for fatigue and other things. I suppose you would say fatigue includes some of this personal time taken. However, the extent of it, we do not know.

I would like to add this, though, and repeat what has been said on a number of instances before. I do not believe we should lose any time getting into the scope of the cost of these items. Some of you must have been surprised at what this list of supplementary labor costs includes.

I think the first list I saw was prepared by Sam Marsh of St. Louis. I had to admit there are a half dozen items in there I had not been too conscious of. I would recommend that, whatever technique it may take to immediately set about capturing these costs, some means be found by which the statistics can be put together because, to repeat over and over again, there are entirely too few people who realize the ultimate cost to our economy.

CLARENCE W. SNYDER (*Comptroller, John Roeblings Sons Company, Trenton, N. J.*) : In these days of modern times and of marginal costing requiring segregation of cost between fixed and variable, I would like to test any member of the panel on two of these supplemental labor costs, pensions and vacation pay, as to whether they are fixed or variable.

Now, I do not want the answer that the president's salary or president's pension and vacation pay is fixed because he is fixed. Let us

get over into the productive labor area on what are fixed or variable pensions and vacation pay.

To point it up a little better on vacation pay, take contracts where people get three weeks vacation annually after twenty-five years of service, that seems to be very fixed as a cost, even in the direct labor area. To get down to the one-year people who get one week, that is pretty close to the variable, providing they stick the year out. Pensions, what are they? They are paid after age 65. Is this fixed or variable? In short how is the segregation applied to pensions and vacation pay? What is the rough opinion of the panel as to how to handle that?

Chairman Gunther: I am very sorry to say that the panel on this one is going to have to handle it very quickly. We could go on for hours on this subject of supplementals, but we have several announcements to make and some ceremony here immediately following. If the panel will just cover that a little rapidly—Ralph, do you want to take it?

Mr. Knott: I consider these items as fixed because they do not vary with production, no matter how you figure it. You have a fixed expense regardless of the production element. Therefore, we classify them entirely as fixed.

Mr. Caldwell: I would agree to that, also, and I am going to add this additional comment that it takes actuarial studies to determine the figures eventually charged in connection with pensions. The matter does not have anything to do with the through-put of a plant. It is a matter of who you have on the pay roll, how long service may be, what turnover may be, and things of that character. Furthermore, every location or every plant, every branch, whatever it may be, will have different actuarial statistics arising.

Chairman Gunther: Thank you very much. As I say, I regret to shut this off. I want to thank each and every member of the panel, our principal speaker, Ralph Knott, and the other panel members, Mr. Caldwell, Mr. Coons, Mr. Johnson and Prof. Himmelblau. Without further ado I will turn the meeting over to our chairman, Wayne Keller. He has some very important announcements.

SESSION V

TAXES AND INVENTORY VALUATION

WEDNESDAY AFTERNOON, JUNE 27, 1951

JAMES B. FENNER, Vice President and Controller, The Electric Auto-Lite Co., Toledo, Ohio, *Chairman.*

JACKSON W SMART is a Partner in the firm of Touche, Niven, Bailey & Smart, which firm consists of a merger of three firms in 1947. He was a partner of the firm of Allen R. Smart & Co., prior to that time. Mr Smart was born in Chicago and attended the University of Michigan. Graduated in 1920 with a degree of Bachelor of Science in Mechanical Engineering, he subsequently took various accounting courses and received his C P A. degree in Illinois in 1926. He is a member of the Illinois Society of Certified Public Accountants, of which he is past President. He is also a member of the American Institute of Accountants and has been a member of its Council and of its Executive Committee.

JAMES J. MAHON, Jr. is a Certified Public Accountant and a Resident Partner of the firm of Lybrand, Ross Bros. & Montgomery in Philadelphia He has been active for a number of years in the American Institute of Accountants and the Pennsylvania Institute of Certified Public Accountants, having served as Chairman of the Philadelphia Chapter of the latter organization He has been long identified with the field of taxation as a member of the Tax Committees of the Philadelphia and Pennsylvania Chambers of Commerce and of the Advisory Board of the Pennsylvania Tax Institute, and as a former Chairman of the Tax Committee of the Pennsylvania Institute of Certified Public Accountants.

Mr. Mahon has done extensive lecturing before business groups, professional societies and various tax institutes, such as the New York University and Pennsylvania State College Institutes of Taxation He is the author of "State Taxation of Corporations in Pennsylvania" and a collaborator in the preparation of Montgomery's "Federal Taxes on Corporations and Partnerships"

THE EFFECT OF INVENTORY VALUATION ON PROFITS AND TAXES

JACKSON W. SMART

Partner, Touche, Niven, Bailey & Smart,
Chicago, Ill.

THE title of the paper which was given to me is a formidable one. When I read it, with the explanation, to one of my good friends, he asked how long I was to speak. When I replied, "About forty minutes," he said he was glad of that, since he was afraid that otherwise I would scarcely have time to do more than explain the nature of my address.

It has been said many times that the science of accounting is in its infancy and that our ideas and concepts of its use are constantly developing and changing. It is difficult for some of us, as we become older and less flexible in our thinking, to keep pace with what is going on and to sort out the good from the bad. Every once in a while a different theory of accounting comes along which appears to have a material effect on the whole structure.

Two Principal Methods of Inventory Valuation

At the present time we are confronted with a situation of certain new methods in the valuing of inventories. If the methods are not entirely new, it is only in recent years that there has been much use of them and, even today, they are limited to approximately 20 per cent of total inventory values. I am referring to the use of last-in first-out ("lifo") instead of the traditional method of pricing inventories on the basis of cost, first-in first-out ("fifo") or market, whichever is the lower. Other methods of inventory pricing are considered to be merely variations of these two methods and to fall generally into either one class or the other.

The essential difference between the two inventory methods is that under "fifo" inventory profits are included in financial reporting, while under "lifo" such profits are not recognized in the accounts. The term "inventory profits" has different meanings to different people. In this discussion it is intended to mean that part of the

profit of an enterprise which must be reinvested in replacing inventories at higher prices than the inventories sold.

The Results of a Change of Emphasis

In thinking over the subject of my paper, "The Effect of Inventory Valuation on Profits and Taxes," it is interesting that the title makes no reference to the balance sheet. It is only within recent years that the balance sheet has not been considered the most significant financial statement. However, as corporations have become larger and their financial affairs and operations correspondingly more complex, with ownership more diversified, there has developed a gradual shifting of emphasis from the balance sheet to the income account. At the present time the income account is usually considered to be of primary importance to the reader of financial statements, and the balance sheet is studied principally to ascertain the general financial condition and to form an opinion as to the extent a company is in a position to pay out earnings in dividends and/or to finance working capital requirements and expansion.

As the emphasis shifted from the balance sheet to the income account, some few managements became more conscious of the part that inventory profits or losses, over which they usually had little or no control, were playing in the determination of annual profits. This thinking on the part of management is illustrated by the 1920 report to the shareholders of National Lead Company, from which the following is quoted:

"For all practical purposes, the Normal Stock is like a piece of machinery which the Company has to have always on hand in order to operate. When the price for Pig Lead, for instance, went to 11¢ a pound, the National Lead Company could not make an actual profit thereon without selling its Normal Stocks but, in that event, it would either have to buy back such Normal Stocks at the then market, or go out of business.... This being true, we do not deceive ourselves by marking up inventory values and taking book profits, upon which we could not realize, to be followed later by book losses of like amount.... Our stockholders are also likely to be deceived by apparent high earnings followed by severe losses, if such book profits and losses are reported in our published statements."

The National Lead Company was the forerunner in developing that philosophy of applying accounting principles to the financial statements, which had the effect of eliminating certain of the inventory profits from the accounts. A few other companies, including Corn

Products Refining Company, Endicott-Johnson Corporation, and many of the metals and mining companies adopted the normal, or base stock, method of inventory valuation prior to the period that it was acceptable for tax purposes. Other companies, such as Swift and Co., accomplished the same objective, *i.e.*, of eliminating inventory profits, by providing inventory reserves. However, until the tax laws were changed in 1938 and 1939 to permit taxpayers to eliminate such profits in computing taxable income, there was no substantial acceptance of "lifo" or similar methods indicated in published financial statements. If there was a trend in this direction it was hardly noticeable.

"Lifo"—Pro and Con

If we drop from our discussion the practical aspects of any tax considerations, this question of whether inventory profits should be eliminated in financial statements is a subject of much controversy among accountants, economists, and business management. In dealing with the broad aspects of the matter those who do not favor the general use of "lifo" state that:

1. The purpose and reliability of the balance sheet is affected if the difference between actual cost and carrying value of inventories is substantial. (This objection, of course, may be partially overcome if such difference is shown either parenthetically or by way of footnote in the financial statements).
2. Inventory profits have actually been realized on the disposal of inventories and it is only factual to so recognize this fact, both in the income account and the balance sheet. The fact that such profits may be due principally to economic conditions is not ordinarily relevant as an accounting matter.

On the other hand the proponents of eliminating inventory profits by the use of "lifo," normal, or base stock methods of inventory valuation, or by reserves, believe that:

1. An important function of the income account is to give information on the earning power of an enterprise. Inventory profits which are primarily the result of economic conditions and not management planning, should be excluded.
2. When the inventory profits are to be used to rebuild the same inventories at higher price levels, no part of this profit is avail-

able for either distribution to shareholders or expansion of the business, and therefore such profits are not truly earnings.

Although it is not altogether pertinent to our present discussion of inventory valuation, it may be of interest to note that some "lifo" adherents consider the use of "lifo" as a principal step to a concept of economic income which, in their opinion, has more significance and utility than traditional accounting concepts in a fluctuating economy. Some also recommend a charge to the current income account, of depreciation based on current cost levels of plants and equipment instead of on historical cost. If, and when, there is a general adoption of "lifo" for the entire inventory and not segments thereof, as is customary today, it is possible that this point of view may be more widely accepted, although there are substantial differences between the two kinds of assets which would affect the application of the current cost theory.

"Lifo" Enters the Tax Picture

To return to the matter of inventory valuation, the tax laws were revised in 1938 and 1939 so that taxpayers could elect to place all or part of their inventories on a basis which had the effect of eliminating a substantial part of inventory profits from taxable income, if the taxpayers were willing and able to comply with the regulations promulgated by the Treasury Department. Initially, only the nonferrous metal and tanning industries were allowed to qualify but, in 1939, the privilege was extended to all taxpayers. In 1940 tax rates were increased materially and it was in this year that many companies decided to adopt "lifo" or the "elective method," as it is described in the Internal Revenue Code, in the valuation of at least some part of their inventories. It is fairly evident that tax considerations, rather than other considerations, were the motivating force, since inventories which could not be valued on "lifo" for tax purposes were continued on the old "fifo" or similar bases in published accounts. In any event the adoption of "lifo" was helpful from a financial standpoint, since inventory profits in succeeding years on the "lifo" part of the inventories have all been available in cash to maintain inventories at higher price levels, without the need of additional financing. Under the "fifo" method of pricing inventories, profits thereon would have been taxed at rates varying from 38 per cent to 85½ per cent and, to this extent,

inventory replacements would have had to be financed from other sources.

The amount of inventory profits in the year 1946 has been estimated by the Department of Commerce at five billion dollars, or 39 per cent of corporate profits after taxes and in 1947 the corresponding figure was five billion one hundred million dollars, representing 28 per cent of corporate profits after taxes. If different methods of pricing inventories have had such an important effect on corporate profits as a whole, they are even more significant for industries in which inventory profits or losses are concentrated. It would appear that, had inventories of taxpayers been valued as far as possible on a "lifo" basis, a substantial part of the inventory profits would not have been taken up as income in financial accounts, and the tax benefits to taxpayers would have been in the billions of dollars.

As previously stated, it is estimated that approximately 20 per cent of inventories are on a "lifo" basis for tax purposes. Up to now, the use of "lifo" has been principally confined to larger companies in the following industries:

Petroleum	Nonferrous metals
Iron and steel	Chemicals
Food	Paper and pulp
Meat packers	Leather and shoes
Textiles	Lumber and wood

Department and specialty stores

Limited Adoption of "Lifo"—Some Reasons

The 1950 pamphlet on Accounting Trends and Techniques, prepared by the Research Department of the American Institute of Accountants, lists 98 companies, out of a total of 525 examined, which value all or part of the inventories on "lifo." Just what percentage of the inventories of each company is priced on this basis is usually not indicated, nor is the difference between the "lifo" value and the value under other valuation methods which might have been used. In some instances, the amount of inventory on "lifo" may not be more than 5 per cent, while in other instances it may approach 100 per cent. Under these circumstances there is no clear disclosure of profits. This situation has caused unhappiness among accountants who have been endeavoring to increase the usefulness of financial statements by nar-

rowing the areas in which there exist a variety of practices. Even though complete disclosure of various methods of valuing inventories is made and the effect in dollars and cents is indicated, the present great variety in the extent of the adoption of the "lifo" principle has considerably increased the confusion in interpreting the income statement.

In many of its applications the acceptance of "lifo" is a striking example of the influence of taxation on accounting. However, in view of the tax advantages which have resulted up to the present time to taxpayers who have used "lifo," the question naturally arises as to why it has not been adopted more extensively by industry.

A principal reason that "lifo" has not been adopted, in many companies, is the lack of suitability of this method of pricing inventories under certain circumstances. For example, its use would not be suitable for companies which produce goods principally after receipt of orders from customers and otherwise carry small inventories except as required in processing such orders. Illustrations of this type of company are:

Airplane manufacturers who build principally on specific contracts (an exception might be the manufacturer of a plane built for general market sale, such as the Piper Cub, but it is possible that such a manufacturer might not want to shift to "lifo," because of widely varying amounts of production).

Builders of heavy machine tools manufactured on special orders.

So-called job shops of every description except possibly for inventories of materials or parts carried in stock, if significant.

The Committee on Accounting Procedure of the American Institute in a research bulletin on Inventory Pricing has explained the circumstances under which "lifo" may be used as follows:

"... where sales prices are promptly influenced by changes in reproductive costs, an assumption of "last-in, first-out" flow of cost factors may be more appropriate. Where no such cost-price relationship exists, the "first-in, first-out" or an "average" method may be more properly utilized...."

There are many companies, however, where the use of "lifo" would be entirely suitable, which have failed to adopt it for either tax purposes or in their financial accounting. While there are many reasons for this, a few of the more important ones may be summarized as follows:

1. Lack of a full appreciation of the inflationary period being experienced in our economy, since it is only under conditions of rapidly changing price levels that the use of "lifo" has a material effect on the earnings in comparison with traditional inventory methods.
2. Although "lifo" will reduce taxes in an inflationary period, it reduces profits even more and the managements of many companies have been reluctant to institute changes which would reduce their reported earnings.
3. The fear that in a deflationary period inventory prices would be lower than the floor which is established at the time "lifo" is adopted and, further, that the company would lose the benefits of tax deductions otherwise available because of the irrevocable election that is made at the time of its adoption.
4. The general belief of many taxpayers, which has been fostered by the Treasury Department in its regulations and rulings as well as in its attitude, that the elective method had little or no application to a large proportion of inventory situations.
5. The cost of installing and maintaining additional records which appeared necessary, as well as the fear of the burden of changes which might be required in existing records.

These reasons have all been valid and cogent in varying degrees over the years since the tax laws have been changed to permit the use of "lifo." However, as experience has been gained in the workings of the law, there has developed a better understanding of "lifo" problems, the extent of its usefulness, and the methods of its application. This has been particularly true in the past year or so since the decision in the Hutzler case and the recognition by the Treasury Department of the so-called dollar-value approach. As a result it appears to be possible today, where the use of "lifo" is applicable, to apply the elective method of inventory valuation to most inventories on a basis of sufficiently broad groupings or classifications to be practical from the standpoint of the taxpayer and at the same time acceptable to the Treasury Department. It is true that the taxpayer, once having chosen to use the elective method for any part of his inventories, must receive permission from the Treasury Department to change to another basis. However, once the election is made, the Treasury Department has given the taxpayer every opportunity to adjust his methods to make

them acceptable in the event the Treasury Department does not believe that the ones used initially conform to the regulations.

Under the present law it is still true that, if inventory costs fall below the level existing at the time "lifo" was adopted, the loss is not recognized for tax purposes. The fact that, in most instances, companies which adopted the elective method in the early stages have such a large cushion between present costs and those obtaining at the time they made their election that the possibility of prices falling below the floor is now remote, is no consolation to companies which are now considering whether or not the adoption of "lifo" is feasible for them. At the present time there is agitation to change the tax laws to permit of inventory valuation on the basis of "lifo" or market, whichever is lower, and, while such a change may not have the blessing of the Treasury Department, it does have some support.

While it is not my purpose to prepare either an exhaustive or technical discussion of "lifo," it may be of interest to examine a little more closely into its actual workings and to highlight some of the factors which must be considered in making any decision to adopt it in a particular situation.

Discussion of the "Lifo" Base

The tax law provides that the amount of inventory on hand in any "lifo" classification at the time the method is adopted represents the initial "lifo" base stock and, at this time, if any market writedowns have been made in this inventory, they must be reinstated in the "lifo" cost. At the end of subsequent taxable periods, inventory increase over the base stock in any inventory grouping or classification is to be priced at current costs. Annual decreases in each classification are applied to the most recent increases and, to the extent that aggregate decreases by classification exceed aggregate increases, the base stock is lowered for subsequent periods.

During the last war and for a period thereafter, and again under present conditions, there are and will be many instances of involuntary liquidation of inventory quantities because of shortages and not as a result of management decision. The law recognizes this by permitting a taxpayer under these conditions, if he has so elected, to adjust taxable income with the difference between "lifo" cost and acquisition cost at the time of replacement. Such difference is allocated back to the year of liquidation and the tax for this year is recomputed. Thus

a taxpayer need not pay taxes on inventory profits realized on the sale of base stocks if he elects to replace, and does replace, inventories involuntarily liquidated.

In many instances of financial statements prepared at the close of the year, where there have been involuntary liquidations of base stocks of "lifo" inventories, provision has been made by a reserve, net of estimated tax benefits, for the estimated cost of inventory replacements in excess of "lifo" costs. Interim reports prepared during the taxable year may also include a provision for any voluntary liquidation of base "lifo" stocks which are to be replaced before the end of the year.

DISCUSSION OF "LIFO" METHODS

The elective or "lifo" method of pricing inventories requires a matching of the beginning and ending inventories. It was originally believed that a physical identification of commodities was necessary.

"Specific Goods" Method and Raw Material Method

In electing to adopt "lifo," a taxpayer's application specified with particularity the goods to which the method was to be applied, and specific goods in the closing inventory were matched with similar goods in the opening inventory. A taxpayer could limit his election to certain goods in inventory which embraced items of raw material or items of finished goods or both. However, when raw materials entered conversion, they became a different item of inventory for this purpose.

The Treasury Department regulations were later relaxed somewhat by T. D. 5407, and a manufacturer or processor who had elected to adopt the specific goods method was permitted to substitute the raw material method. The raw material method limits the application of "lifo" to raw material only, including the raw materials in finished and semi-finished goods measured in terms of appropriate units. It does not make any difference if raw material changes its shape or identity in the manufacturing process as long as the amounts therein can be reasonably estimated. The processing labor and burden costs are continued to be valued on a "fifo" basis.

This method is attractive to taxpayers in industries where raw materials represent a major proportion of total costs and/or where processing costs are not subject to large price fluctuations. The raw material method reduces the number of groupings or classifications

previously considered necessary and, in some circumstances, permits a combination of similar but not identical raw materials in a single group. It does not remove the need for matching goods in the closing and opening inventories by physical identification, although the matching can be done by groups rather than items. Thus the raw material content of goods in process and finished goods is converted to an equivalent raw material unit, such as feet, pounds, etc., and the quantities in each classification at the beginning and end of the year are compared to determine whether there has been an increase or decrease during the year.

The Hutzler Decision

In the early days of the administration of the elective method of inventory valuation, the Commissioner held that a taxpayer was precluded from electing "lifo" if he was unable to physically match the goods in the ending inventory with the goods in the beginning inventory and purchases. Department stores using the retail method could not satisfy these requirements and the same situation was true for many taxpayers in other businesses. While many taxpayers gave up the idea of filing their tax returns on the elective method, others continued to do so even though the Commissioner was asserting deficiencies.

By agreement among them and the Commissioner it was decided to test the application of "lifo" with respect to department store inventories before the Tax Court in the Hutzler Brothers case. In 1947 the Court ruled in favor of this taxpayer, holding that a physical matching of goods on hand in a given department at the end of the year with goods on hand in that department at the beginning of the year was not required, because department stores had always valued inventories on the retail method by departments, regardless of the items included in such departments, and this method had been accepted for tax purposes.

Based on this decision, regulations were promulgated permitting the use of the elective method by department stores. Indices prepared by the Bureau of Labor Statistics are used in valuing each year's increments and converting year-end inventory values to base inventory values by departments. In substance, the technique is very similar to the dollar value method later approved by the Commissioner when he amended his regulations late in 1949 following decisions in the Basse

and Sweeney cases. The Tax Court in 1948 held in these cases that the dollar value method approved in the Hutzler case was applicable to inventories of taxpayers other than department stores if proper inventory classifications could be developed.

The Dollar-Value Method

The regulations now provide that the dollar value method of inventory may be used by any taxpayer if the Commissioner can be satisfied that its use will properly reflect income on the "lifo" basis of accounting described in the tax law. The matching requirements of the statute are satisfied by matching or comparing the dollar values at the beginning and end of the year.

Under this method all inventories are converted into dollar costs or values. The base dollar cost of an item is its cost reflected in the opening inventory of the year "lifo" is first used. The base dollar cost of new items added to each "lifo" classification may be either the cost of such items when they were added, or the estimated cost to produce or purchase such items at the beginning of the base period. The quantities of each item appearing in subsequent inventories are extended at base dollar costs and in this manner a weighted quantity is obtained in each "lifo" classification. The quantities in each classification (represented by base dollar costs) are then compared with quantities as reflected by base dollar costs in the opening inventories of the respective classifications to determine whether there has been an increase or decrease during the year.

It is recognized that an increase or decrease may occur as a result of a change in the actual physical inventory or may be due to a reshuffling of the various priced goods in a different proportion. The computations of "lifo" values are the same, regardless of the reasons for increments or liquidations. Increments are valued by the use of an index for each classification determined by reference to the taxpayer's own purchase or production experience. It is possible that published price indices may be available in the future for other than department stores but, up to the present time, the Treasury Department has been unwilling to accept bases other than those developed from the taxpayer's own experience and records.

In general it is important to keep the number of inventory classifications or groupings to a minimum. Under ordinary conditions it is not difficult to maintain at a given level inventories as a whole but the

mix among items may well vary substantially. In order to maintain the "lifo" base, it is necessary that there be no liquidations at the year-end in any of the inventory pools or classifications which have been established. For large iron and steel, chemical, and petroleum companies, 30 to 50 groups have been found to be adequate.

Sketch of Method for Manufacturing Application of "Lifo"

In view of the liberalization of Treasury Department policy it would appear that we may well be approaching the time when a more simple application of "lifo" may be used for manufacturing inventories with approval of the Treasury Department.

A desirable method would be one which would group such inventories in only three broad inventory classifications, namely, material, labor and overhead, although each classification may have several pools. The material element would be handled in the same manner as heretofore described. The labor classification would be broken down into machine shop labor, assembly floor labor, finishing department labor, etc., or alternatively in such a manner that the hourly rates were approximately the same within each pool. The "lifo" base in each labor pool would represent the number of hours in the pool at the time "lifo" was adopted and, over the years, that part of the inventory would be priced at the same labor rate per hour or piecework rate which was applicable at the start. Overheads would be priced in a similar manner. Excess material, hours of labor, and units of overhead over the "lifo" base would, of course, be priced at current cost. Perhaps the method could be further simplified to have only two classifications, namely, material and processing costs.

The advantage of this method is that the "lifo" classifications and pools are completely unrelated to the products in which the cost elements are invested. In past years this method has not been acceptable to the Treasury Department, but indications are that the Commissioner may now be willing to go along on this basis under appropriate circumstances.

Record-Keeping Under "Lifo"

One of the reasons why many companies have not adopted the elective method of inventory valuation has been their belief that it would add materially to the cost of record-keeping and would require changes in the present methods. The facts are that, ordinarily, no

significant changes are required in respect of present cost finding methods or records. The "lifo" adjustment does not have to be made in present books of account, except as a reserve. The amount of this reserve is computed in detail in subsidiary records which form a part of present records. The additional cost of the record-keeping is, therefore, confined to that of keeping required supplemental information.

The nature and cost of keeping the supplemental information for purposes of computing the "lifo" adjustment depends on the circumstances in each instance. There are simple applications covering only one kind of raw material and complex applications covering all inventories of a company.

The information required to compute the "lifo" reserve for one kind of raw material in a manufacturing company inventory would consist of a listing and totalling from inventory cards or other data of the quantity of such raw material by units of measurement in the raw material, work in process and finished goods inventories. Under the elective method the inventory cost would consist of the amount of such raw material measured in units multiplied by the cost thereof at the time the method was adopted. Any increment over the "lifo" base at the beginning of the year would be costed at current prices. The difference between the dollar amount of the inventory computed in this fashion and the amount determined by the usual costing methods of the company, would be placed on the books as a reserve and charged to cost of sales.

Under the dollar value method, individual items of all inventories valued on the elective method would have to be repriced at costs obtaining at the time the method was adopted, with new items priced on a basis described earlier. This frequently involves a substantial amount of clerical work in addition to a necessity of making informed estimates of the base costs of items included in inventories for the first time.

Once the matters of inventory costing have been routinized, companies have not generally complained about the amount of additional work involved, at least as long as the tax savings have been as substantial as they have been in recent years since the adoption of "lifo" has been permitted for tax purposes.

CONCLUSION

In general there are two fundamental methods of inventory valuation, namely, a concept of including inventory profits and a concept of not recognizing such profits. In an inflationary period the use of "lifo" may result in substantially lower profits and taxes than the use of traditional methods of inventory valuation. In a deflationary period, if inventory costs fall below the "lifo" base, it is assumed that either the tax laws will be changed to permit of a reduction of base cost or an inventory reserve will be established. In either event the profit determination will approach "fifo." There are many variations of these two methods but, generally, such variations do not materially affect the determination of taxes or income under either method.

As has been stated, the adoption of "lifo" by companies up to the present time has been primarily because of tax considerations. The managements of many companies are undoubtedly of the opinion, however, that the elimination of inventory profits is desirable from the standpoint of giving shareholders better information about profits. Further, they state that both shareholders and management are furnished with a better yardstick as to the accomplishments of a business in a given period. The real test of "lifo" will come in a deflationary period with no tax benefits and possibly additional tax costs. If, under these conditions, there is still a trend toward its use we all must agree that "lifo" has been accepted on its own merits as an accounting and business ideology.

THE EFFECT OF TAXES ON BUSINESS PLANNING

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FEDERAL income taxes are frequently referred to as one of the "costs" of business. While they are not an expenditure usually accounted for in our cost accounting systems, nevertheless, they are a very real element of cost to the business manager. Our ultimate objective as business managers is the production of the maximum amount of net income from our businesses both *before* taxes and *after* taxes. The former is a prerequisite of the latter and as such deserves our primary consideration but the latter, net income after taxes, is the amount from which dividends are paid, through which expansion is primarily accomplished and by which the abilities of management are ultimately measured and judged.

Tax-Consciousness and Business Profits

Tax-consciousness on the part of alert business management can be instrumental in increasing both these profit figures. Such management can minimize corporate income taxes by maximum utilization of deductions and credits. An example would be to make completely certain that the excess profits credit used in returns is the most advantageous. Management can also apply tax knowledge to increase income *before* taxes.

There follows a discussion of some of the effects of the current tax law on tax planning for corporations and for their management and stockholders.

CORPORATE TAX PLANNING

General Policies

Current business planning must take cognizance of the inevitable effect on our tax structure of the expenditure of a significant part, say 25 per cent, of our national income to activate and maintain the United States military machine over the next decade, whether or not there is total war. It seems safe to assume that, as a result, tax rates on busi-

ness income, particularly corporate income, will exceed 50 per cent over that period, and that rates on high personal incomes will be practically income-limiting, *i.e.*, confiscatory. It might also be conjectured that, despite rising price levels, long-term capital gains of both corporations and individuals will continue to be taxed at lower rates than ordinary income and that certain types of industries, because of their peculiar problems (*e g.*, those with depletable resources), will continue to receive more favorable tax treatment.

The extent to which our civilian economy or standard of living can be maintained will depend, of course, upon whether or not total war ensues from present international tension. These assumptions and conjectures are based on conditions as they appear today. Conservative business management will not count on them to the point of completely ignoring the possibility of radical changes in world conditions.

Neither will conservative management adopt a last-fling frame of mind and, abandoning all hope of return, carelessly dissipate its dollars in an orgy of spending. Despite some opinion to the contrary and notwithstanding the maximum corporate tax rate of 77 per cent, a dollar is still a dollar, a little battered perhaps and a little deflated. But it still has competitive buying power and it will represent the world's most coveted medium of exchange for some years to come.

Therefore, even though Uncle Sam may be bearing 77 per cent of an expense, the expenditure should not be made unless it is mandatory or can reasonably be expected to yield some return in increased current or future profits. More effort may have to be expended to realize retainable profits under the wartime tax structure. Nevertheless, such profits are in the cards even today. For example, average corporate income, even after excess profits taxes during six years of World War II, was more than double the comparable income during the five prewar years. In fact, it even exceeded 1929 corporate income.

Neither should the profusion of 23-cent dollars precipitate the impulsive incurrence of long-term liabilities, the payment of which may prove impossibly onerous in low rate years. Hundreds of employee pension plans entered into during the World War II excess profits tax years, many of them were abandoned at war's end! These plans undoubtedly were instituted in good faith but they simply could not withstand the rigors of competitive economy.

Accelerating Deductions—General

Now is the time to make expenditures which are currently deductible, but the benefits from which will inure in the future—possibly in low rate years. Such expenditures might include those for research, design, advertising and promotion. Should total war necessitate the complete conversion of industry to war production, expenses of preparing for a speedy reconversion to civilian production might be more beneficially made during the excess profits tax years. Not only would they be deductible at high rates but the speed of reconversion may determine the extent to which postwar competitive civilian markets may be captured. Witness the tremendous competitive advantage Studebaker enjoyed when, after World War II, it promptly introduced its newly-designed postwar model.

The current high tax rates also should encourage the maximum utilization of deductions which ensue from legitimate expenditures. To the extent that they can be controlled, now is the time to take legitimate deductions rather than in lower rate years. For example, and this condition is more prevalent than may be thought, take the case of the unprofitable subsidiary which has been financed over the years primarily by advances from the parent company. The dearth of assets in the subsidiary has rendered the relatively nominal stock investment worthless and the advances partially unrecoverable. The liquidation of the subsidiary in a so-called taxable liquidation during an excess profits tax year will yield the parent company a maximum tax benefit from the bad debt deduction on account of the partial worthlessness of the advances, a pointed example of maximum tax benefits from a "slow-death" type of loss.

Accelerating Deductions—Depreciation

Another example of the maximum utilization of deductions which ensue from legitimate expenditures lies in the field of depreciation. Management's zeal to accelerate the write-off of plant investment increases in direct proportion to the rise in tax rates. However, past experience indicates that most efforts to increase amortization or depreciation of plant and equipment are doomed to abort. For example, "accelerated depreciation" as such, *i.e.*, the simple acceleration of depreciation to ostensibly reflect additional usage during wartime gen-

erally has been frowned upon by the Tax Court. In the many cases in which the court has considered claims for accelerated depreciation, it has repeatedly asserted that there must be a showing that the useful life of the asset was *actually* shortened as the result of the increased usage and abnormal operating conditions. In these days of maximum maintenance of physical assets, such would be often difficult to prove.

Likewise, the depreciation "panaceas" of the past, such as the declining balance method under which taxpayers theoretically may obtain increased depreciation deductions in the early years of an asset's life, are generally not practical because of the almost prohibitive restrictions placed on their use by the Treasury.

Finally, the current provision for accelerated amortization of emergency facilities is not nearly the boon to industry that the corresponding provision was during World War II. During that period practically 100 per cent of the cost of all new facilities was certified as necessary to the national defense and accelerated amortization was claimed thereon. However, under the present law, the portion of the cost of a facility which is certified as necessary to the national defense depends primarily upon the anticipated future usefulness of the facility.

The percentage of certification on facilities thus far has ranged from 100 per cent down to 40 per cent. The average is about 70 per cent (at May 7, 1951). In some industries in which there is no apparent shortage of productive capacity, certificates have been denied, as in the case of the anthracite coal mining industry. Furthermore, there is a growing sentiment against the issuance of any additional necessity certificates. Congress thus may see fit to substantially curtail the amortization provisions when it considers the extension of the Defense Production Act.

—*And Obsolescence*

Hence it is apparent that the "fancy" methods of accelerating plant write-offs during the high-rate years are worthy of only passing consideration. However, the possibility of stepping-up depreciation because of normal obsolescence of plant and equipment should be examined. The physical life of a machine alone does not determine its normal rate of depreciation. Rather it is the anticipated economic useful life of the machine over which the investment should be recovered. Therefore, the normal obsolescence of the machine as the

result of normal progress of the arts, should be carefully explored. For example, in the full-fashioned hosiery industry, the trend over the past thirty years has been toward higher gauge stockings. During that period, 39, 42, 45, 51 and 60 gauge hosiery were succesively in vogue. Each step in the trend contributed to the obsolescence of lower-gauge knitting machines. Thus, despite their physically-useful life of 25 or 30 years, such machines are permitted to be depreciated over a 15-year life because of the obsolescence factor.

Neither should the possibility of *extraordinary* obsolescence be overlooked. As contrasted with normal obsolescence which accrues gradually, extraordinary obsolescence is relatively sudden or imminent. It is definitely ascertainable when it has actually occurred and can often be foreseen or anticipated with approximate accuracy. As a result, the usefulness of the asset is abruptly terminated. For example, reference is again made to the hosiery industry. Footers, one of the two principal machines formerly used in making full-fashioned hosiery, were suddenly rendered useless several years ago when the addition of the single-unit attachment to the legger machine replaced them. Thus, the write-off of any investment in footers, due to extraordinary obsolescence, was in order.

Obsolescence, either normal or extraordinary, can be established only by careful periodic surveys of plant and equipment in the light of technological advances, and must be made by accounting and engineering personnel.

A detailed review of plant records and the ascertainment of the actual existence of machinery and equipment or the adequacy of depreciation of specific items is not usually contemplated in audits by certified public accountants. Therefore, industry itself should carefully review and tighten up its plant accounts to assure the existence of the physical assets and to precisely ascertain the adequacy of provisions for depreciation or obsolescence thereon. Such procedure presents the most practical method of accelerating plant write-off during the high-rate years.

Investing in Sources of Nontaxable Income

Then, too, the prudent investment of funds in sources of nontaxable income is a consideration of accentuated importance during high-rate years. For example, the steel company using large quantities of iron and coal might well consider the investment of its funds to acquire coal

and iron mining facilities. The deduction for percentage depletion allowed such enterprises renders effectually tax-free up to 50 per cent of their net income. Nor is the possibility of investing in depletable resources confined to iron and coal. There are over twenty-five types of exhaustible resources which qualify for percentage depletion. They are used in innumerable industries in varying degrees.

The cost of stocks of companies with depletable resources need not necessarily be prohibitive even to medium-sized companies The present owner can often be induced to sell with the assurance that his profit will be subject only to the 25 per cent capital gains tax rate. The tax benefits derived from percentage depletion, let alone the assured source of raw material, may literally return the buyer's investment within a few years.

Needless to say, such an undertaking would be improvident and perhaps disastrous if lacking in purpose and benefits other than hoped-for tax advantage. The latter may dissolve. Although it has so far shown no disposition to do so, Congress has been repeatedly urged by the Treasury to curtail the percentage depletion provisions. Therefore, the promise of economic benefits should itself impel the investment—but let no one's back be turned on tax benefits.

Another example of a source of nontaxable income (at least for excess profits tax purposes) is stock in a foreign corporation. Thus American corporations contemplating doing business in foreign countries might well consider, *inter alia,* the incorporation of foreign branches, since dividends therefrom are not subject to excess profits tax. The net return on the investment in this source of nontaxable income may exceed that obtainable from like investments in the United States.

The Excess Profits Tax

There is little that management can do solely to minimize excess profits tax liability in the light of the company's circumstances, except to carefully examine the possible application of all provisions of the excess profits tax act to make certain that the most advantageous adjustments, elections, options, credits and alternatives are availed of.

For example, the possible overall tax savings resulting from the filing of a consolidated income and excess profits tax return by an affiliated group, rather than separate returns, should be tested. Moreover, the effect of such a return on unused excess profits credit carry-

overs or carry-backs must not be overlooked. The election to compute the invested capital credit under the historical method (Section 458) rather than under the asset method (Section 437) should be carefully weighed. Certainly the use of the former is generally advantageous for companies with exhaustible resources, who have had the benefit of the percentage depletion provisions.

Then, too, the use of the "growth" provision [Section 435(e)] for computing the excess profits credit based on income may be more favorable than the general average [Section 435(d)], if the company satisfies the statutory requisites of growth. It is also possible that the use of industry rates of return may yield a higher average base period income if the taxpayer establishes eligibility under one of the specific provisions (Sections 442 to 447, inclusive) permitting use of such industry rates.

Investigations should be made of invested capital and, most certainly, the base period years should be carefully examined for expenses such as judgments, intangible drilling and development costs, casualty losses and other abnormal deductions [Section 433(b)(9)], the restoration of which would increase the average base period income. In addition, the current year's income should be combed for abnormal income (Section 456) or for nontaxable income from exempt excess output (Section 453).

Special Excess Profits Tax Situations

It is incumbent upon management to make certain by investigations and studies that the tax liability stated in the return is the lowest possible under the provisions of the Excess Profits Tax Act. Nevertheless, with few exceptions, few steps can be taken by management purely to minimize future excess profits taxes. However, ordinary prospective transactions should not be consummated without a consideration of the excess profits tax effect. If there are two methods of consummating a legitimate business transaction, it would indeed be foolish to adopt the costlier one taxwise, everything else being equal. Given in the following paragraphs are some examples of the varying excess profits tax effects of everyday business transactions.

The payment of any dividend will reduce the excess profits credit for subsequent taxable years. The payment of dividends in excess of current earnings, the payment of any dividends in the first 60 days of a taxable year, or the redemption of stock within the taxable year,

would also reduce the excess profits credit for the current taxable year.

If new capital is required, it is generally advantageous, taxwise, to issue indebtedness rather than stock because the interest on the former is deductible for income tax and (to a lesser extent) excess profits tax purposes. Thus, for a company subject to the 77 per cent tax rate and using either the income method or the 12 per cent of invested capital method, the net cost of $100,000 of borrowed capital at 4 per cent is a minus amount (a gain) of $880. The same company issuing $100,000 of stock would sustain a net "cost" of $400, since dividends paid thereon are not deductible for income or excess profits tax purposes.

Acquiring another going business by purchasing its assets for cash would have no effect on the excess profits credit. However, a tax-free acquisition of the assets by the issuance of voting stock would preserve the base period earnings experience of the selling company for use by the acquiring company. The same applies to tax-free mergers and consolidations. On the other hand, purchase of the stock of another corporation for cash would decrease the credit of the acquiring corporation, since the stock would constitute an inadmissible asset. The dividend return therefrom would be subject to nominal tax (about 7 per cent).

The incorporation of an existing partnership or proprietorship in a tax-free transaction [under Code Section 112(b) (5)], would preserve its base period earnings experience for use by the new corporation. A taxable transaction (*e.g.*, a purchase) would not.

The liquidation of a wholly-owned subsidiary in a tax-free liquidation [under Code Section 112(b)(6)], would preserve its base period earnings experience for use by the parent. A taxable liquidation would not. A tax-free liquidation also would increase the invested capital of the parent if the cash cost of the stock to the parent exceeded the basis of the subsidiary's assets. The credit would be reduced if the reverse were true.

The creation of a new subsidiary for a bona fide business purpose (as contrasted with solely a tax purpose) would create an additional $25,000 surtax credit and minimum excess profits tax credit. The creation of a new foreign subsidiary, *i.e.*, the separate incorporation of foreign branches, would exempt the income therefrom from excess profits tax.

It is apparent that, during the applicability of the excess profits tax

law, alert management must consider, more seriously than ever, the tax effects of proposed transactions. Intimate familiarity with the law's provisions is the only means of assuring maximum protection.

MANAGEMENT TAX INCENTIVES

Management is here singled out for special attention because of the particularly heavy impact of the steeply graduated tax rate structure on high personal incomes. It is not denied that labor has its problems, but labor is superbly represented by its unions, not only in direct bargaining with industry for a fair slice of the economic melon but also in the halls of Congress. The impact of the labor movement on tax legislation is well-known. The working man has a vociferous champion in his dealings with the other segments of our economy.

Management is not so represented. Yet these men by self-education, resourcefulness, intelligence and industry in the past have contributed immeasurably to the supremacy of America's industrial machine, a machine that has produced a *per capita* economic wealth unapproached by any other country on earth.

Good management, satisfied management, management with an incentive to expand its creative efforts is just as important to the economy as a happy and efficient labor group. It has always been the promise of financial emoluments, the knowledge of opportunity for personal profits, which has furnished the chief incentive for America's great economic accomplishments and has characterized the profit system of free enterprise. Americans are not *compelled* to exert economic effort as are those subject to totalitarian or socialistic regimes. Rather they are *impelled* by the promise of a personal share of the material fruits of production in approximate proportion to their contributions thereto. This has been their incentive. Should such incentive diminish, their interest is likely to abate and economic mediocrity result. Witness England today for evidence of economic stagnation resulting from the undermining of financial incentive.

Restricted Stock Options

American management's incentive can be and, in some cases, undoubtedly has been diminished by the fact that its retained share of any increase in income may be only 10 or 20 per cent, whereas the lower-paid man may be able to count on retaining perhaps 75 per cent

of any increase in income. Congress has finally recognized America's stake in the continued and unabated interest of its business management. In the Revenue Act of 1950, it provided for the favorable tax treatment of restricted stock options under which management can realize financial gains from its administrative and creative efforts at a maximum capital gains rate of 25 per cent.

The Senate Finance Committee in approving the new provision observed that it would permit industry to "attract" new management, retain the services of executives . . . give employees a more direct interest in the success of the company." Under the new provision, many of the doubts and conflicts which heretofore have existed concerning the tax treatment of stock options is laid at rest. Thus, today, a corporation may grant an option to an executive, or any other employee, to purchase stock of the company at any time at a price approximating the current market value. The executive need not exercise the option. However, if and when the market price of the stock increases, he can then purchase at the option price (with borrowed funds if need be) and ultimately sell, with his gain being taxable generally at favorable capital gains rates.

The law requires: (1) that the option price be at least 85 per cent of the fair market value of the stock when the option is granted, (2) that any exercise thereof must be made while the optionee is an employee or within three months thereafter, (3) that the stock acquired under the option must not be disposed of for at least two years after the granting of the option, (4) that the stock when acquired must be held six months, (5) that the option may be exercised only by the employee during his lifetime and is transferable only by will or the intestate laws and (6) that the employee own less than 10 per cent of the outstanding voting stock of the company.

Under such circumstances, there is deemed to be no element of compensation in the granting of the option and, if the stock increases in value, the employee has the opportunity of realizing most of the income from enhancement in value, being taxed at capital gains rates. If the option price is between 85 per cent and 95 per cent of the fair market value of the stock on the date the option is granted, the difference between the option price and such market value is taxable at ordinary rates, the balance of the gain being taxable at capital gains rates. However, if the option price is at least 95 per cent of the fair

market value when granted, the *entire* gain is taxable at capital gains rates.

Since "capital gains income" furnishes one of the few remaining opportunities of retaining or accumulating any degree of personal financial wealth under today's tax laws, the opportunity to realize such income is a great boon to management.

That the granting of restricted stock options by competitive industry is today essential to attract and retain management is obvious. The following excerpt from the *New York Times,* June 10, 1951, indicates the extent to which restricted stock option plans have already been adopted by companies the stocks of which are listed on the "big board":

"A survey shows that such plans have lately been set up by eighty-three companies listed on the major securities markets. These are distinct from plans arranged many years ago; they also are exclusive of stock purchase plans for all of a corporation's employees and stock bonus plans.

"Among the eighty-three newcomers to restricted stock option plans, there is a rather sharp variation from company to company in the number of shares involved, option prices, length of option period, and the number of employees eligible for 'incentive' stock.

"The range of option prices for eighty-one of the companies is 85 to 100 per cent of the market price, but in the case of two companies—B. F. Goodrich and Goodyear Tire and Rubber Company—the option price was set at 101 per cent of the market quotation. Thirty-two companies made their option price 95 per cent of the market; twenty-five, full market price; eighteen, at 85 per cent; one, 90 per cent, and five with ranges from 85 to 100 per cent.

"For eighty-two of the companies in the survey, the length of the option period ran between two and ten years; the other has no time limit.

"The most frequent period is five years (by thirty-two companies), but a ten-year period was selected by twenty-two companies

"The following table lists the number of shares for eligible officers and other employees and the option price as a per cent of the market price in plans set up recently by sixteen corporations optioning 250,000 or more shares of common stock:

	NO. OF SHARES	NO. OF EMPLOYEES ELIGIBLE	OPTION PRICE AS PER CENT OF MARKET PRICE
U. S. Steel	1,300,000	300	100
Sinclair Oil	598,700	200	100
Sears, Roebuck	500,000	40,000	85
American Airlines	500,000	30	85
Pitts. Plate Glass	450,000	4,000	85
Gulf Oil	400,000	95	85
Standard Oil (N. J.)	** 300,000	125	95-100
Republic Steel	300,000	75	95
Union Oil of Calif.	300,000	30	100
Bond Stores	300,000	659	95
Celanese	300,000	45	95
Jones & Laughlin	300,000	100	100
Loew's	250,000	6	100
Allegheny Corp.*	250,000	10	100
St. Regis Paper	250,000	100	95
United Paramount	250,000	50	95

* Option exercisable only when assets are above liquidation value, or provided earnings for four quarters equal $1 a share.

** Number of shares may be doubled to adjust for two-for-one stock split.

Certainly any company whose stock is regularly traded in should seriously consider issuing restricted stock options to its executives or other valuable personnel. It has little to lose and much to gain.

The ease with which a restricted stock option plan can be adopted by a listed company is not shared by a closely-held corporation or one the shares of which are not regularly traded in. There is a risk in establishing a restricted stock option plan by such a corporation. Since its stock has no easily determinable value, the corporation must be extremely careful that the market value placed thereon for option purposes is high enough to satisfy the 85 per cent minimum option price requirement. Otherwise, the employee is apt to be subjected to tax at ordinary rates on the spread between the option price and the fair market value of the stock when the option is exercised.

Notwithstanding this hazard, the Treasury has refused to approve stock valuations proposed for restricted stock option plan purposes in cases of unlisted stocks. Rather the policy is that the question of fair market value is within the exclusive jurisdiction of the examining

revenue agent. The uncertainty of the tax effects of a stock option plan entered into under such circumstances is apt to discourage many closely-held corporations from adopting such plans. Thus they are placed at a competitive disadvantage in attracting or retaining executive or key personnel by the use of restricted stock options, since their competitors with listed stocks have little difficulty in meeting the law's requirements. However, as indicated above, a closely-held company, in attempting to grant restricted stock options, does not endanger *itself,* but the failure of the plan to qualify may subject the employee to income tax on the spread between the option price and the market price when exercised. It is suggested that, under such circumstances, any stock option offered to an executive be accompanied by an explanation of the risk involved in its exercise. It is to be hoped that the Treasury ultimately will remove the uncertainty by changing its policy to issue advance rulings assenting to the fair market value used in determining the option price in such cases.

Deferred Compensation Contracts

In cases in which stock option plans are not feasible as, for example, where the value of the stock is not likely to increase or where the stock is closely held, there has been a recent flurry of deferred compensation contracts. Under such plans, an executive's current compensation is not increased but, instead, his employer contracts with him for the retention of his services for a definite period of years or for his lifetime. Thus valuable personnel can be retained, not by high current compensation the top layers of which would be subject to staggering tax rates, but rather by the inducement of *continued* compensation over an extended period of time. The extended period may include less productive years of the executive.

Under such deferred compensation contracts, the aggregate income taxes payable by the executive on relatively modest income spread over his lifetime would be substantially less than those payable on the same amount of income received in a shorter period. For example a $50,000 executive (married) would pay about $6,000 income tax at present rates on a current salary increase of $10,000. Thus his "take home" share of such an increase would be only about $4,000. However, if the $10,000 payment were deferred until a subsequent and less productive year when it represented his entire income, the tax thereon would be less than $2,000. He could thus retain $8,000.

Deferred compensation contracts probably are not looked upon favorably by the Treasury. Therefore, they must be carefully drafted and it is essential that some services be rendered by the employee in future years to warrant the receipt of compensation in such years. What is more vital for the employee's protection, an advance ruling as to the tax effects of the contract should be obtained from the Treasury.

From the employee's viewpoint, the deferred compensation contract is not as favorable as a restricted stock option plan, for several reasons. His premature death during the term of the contract will preclude the receipt of further benefits.

He has nothing of value to pass on to his heirs. Furthermore, his rights to future compensation cannot become vested immediately without incurring the risk of immediate taxability of such rights. Therefore, the ultimate receipt of future compensation may depend on whether or not his future services are deemed satisfactory by the employer. Finally, the level of prevailing tax rates fifteen or twenty years hence is extremely conjectural. Thus, the deferred compensation contract is relatively risky.

There is little risk in the case of the restricted stock option since the employee need not commit funds until he is certain that the stock price has increased. Upon exercising the option, he owns something of value which may be transmitted to his heirs at his death. He conceivably can realize benefits within a relatively short period of time, say three years, at presumably favorable capital gains rates.

STOCKHOLDER TAX PLANNING

Tax-conscious corporate management can do much to ameliorate the plight of the stockholder. No matter the extent of profits or surplus accumulated by the corporation, the stockholder ordinarily cannot cash in on them without paying income taxes at high rates unless he disposes of the stock itself, in which case his gain would probably be subject to the more favorable capital gains rates. Frequently, the stockholder, particularly of a closely-held corporation, is stock-poor. He needs cash—retainable cash. Any legitimate opportunity of satisfying his need within the bounds of the tax law, is within the purview of alert management.

Nontaxable Cash Distributions May Be Possible

It is entirely possible that some corporations may be in a position to make nontaxable cash distributions to their stockholders. Such distributions are extremely desirable from the stockholder's viewpoint since they represent a return of capital to him rather than ordinary dividend income. As such, the distribution is taxable only to the extent that it exceeds the basis of his stock and then at capital gains rates.

The taxability or nontaxability of corporate distributions depends upon whether there are available: (1) sufficient earnings or profits in the year of payment or (2) accumulated earnings or profits (*i.e.,* "tax surplus") at the beginning of the year. Thus, if a corporation has current earnings or profits of, say, $50,000 in 1951, but has a *deficit* in accumulated earnings or profits at December 31, 1950, any amounts in excess of $50,000 paid as dividends during 1951 would constitute a return of capital to the shareholders. Should the corporation sustain an unusual loss from a bad debt or from the sale of capital assets or depreciable assets sufficient to completely wipe out its 1951 income, *all* of the 1951 dividends would be nontaxable.

The amount of a corporation's book surplus does not necessarily indicate the true status of accumulated earnings or profits because of prior adjustments that may have been made for financial or accounting purposes, which had no tax effect. For example, a corporation may have had a quasi-reorganization in 1937, at which time capital was transferred to reduce or wipe out a deficit from operations of, say, $500,000. Such transfer was not recognized for tax purposes. The earnings since accumulated, which are included in a "dated surplus" account on the books, are, say, $300,000. Thus, only by re-examining the history of such a surplus account can it be determined that there is actually a deficit of $200,000 in accumulated earnings or profits as of December 31, 1950. Under such circumstances, a nontaxable distribution may be possible.

The scope of examinations by independent public accountants does not ordinarily include the ascertainment of accumulated earnings or profits for tax purposes or the tax status of dividends. Therefore, the existence of a deficit in accumulated earnings or profits may be a complete surprise to the management of many companies.

Family Interests vs. the Estate Tax

Here is another area in which tax-conscious management may be of invaluable assistance to stockholders of closely-held corporations. Many a controlling stockholder, having devoted most of his life and wealth to building up a successful corporate family business, is shocked by the realization that his heirs may not be able to retain control of his company, that in the absence of cash assets, his executors may be forced to sell shares of voting stock to "outsiders" to raise money for estate taxes. Thus, control, and often the management of the corporation, falls into strange hands and the natural intentions and desires of its owner are frustrated. Indeed the welfare of the corporation itself may suffer by reason of the displacement of efficient management groomed and trained by the present owner.

One method of attempting to assure the continuation of voting control in the heirs is by conversion of a portion of the existing voting stock equity into a newly-created issue of nonvoting but otherwise readily marketable type of stock, such as nonvoting common stock or cumulative preferred stock. This is effected by issuing a nontaxable stock dividend in the new stock to holders of the common The newly issued nonvoting stock is held by the controlling common stockholder for redemption by the corporation [to the extent permitted by new Code Section 115(g) (3)] or for ultimate sale to the public by his executors after his death. Thus, cash is afforded for the payment of estate tax and the voting control of the company is retained through the continuing common stock ownership by the heirs.

To assure the nontaxability of the receipt of the new stock, two important requisites should be observed: (1) the transaction must conform in type and substance with those consistently determined to be nontaxable by judicial authority and (2) an advance ruling as to nontaxability should be obtained from the Commissioner of Internal Revenue before the transaction is consummated.

CONCLUSION

It is difficult to formulate a fitting conclusion to this paper except to frankly admit that it is not all-inclusive. At best a few ideas are offered in the hope that they may stimulate thought along similar lines and result in appreciable tax benefits. If so, the paper will have served its purpose.